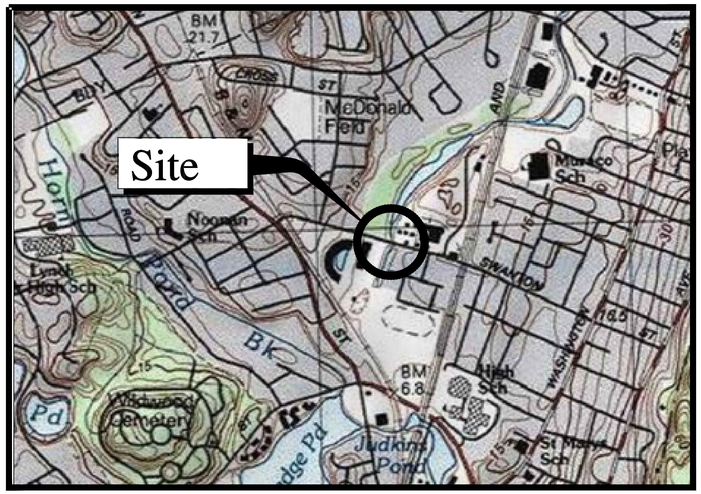
Site Plans

Issued for	**Bid**
Date Issued	**November 17, 2020**
Latest Issue	**November 17, 2020**

Aberjona River Flood Mitigation Program Project 8 - Swanton Street Bridge Over Aberjona River

Swanton Street
Winchester, MA



Site Location Map

Owner/Applicant

Town of Winchester
71 Mount Vernon Street
Winchester, MA 01890
781.821.7129
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Beth Rudolph, PE
Town Engineer
Lower Level, Town Hall

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vhb.com

101 Walnut Street
PO Box 9151
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VHB Project : 13387.00
Issued for : BID

\\ VHB \ GBL \ PRO \ WAT - E \ 13387.00 \ CAD \ TE \ PLANSET \ 13387.00 - COV 17 November 2020

Legend

Exist.	Prop.	
		PROPERTY LINE
		PROJECT LIMIT LINE
		RIGHT-OF-WAY/PROPERTY LINE
		EASEMENT
		BUILDING SETBACK
		PARKING SETBACK
10+00	10+00	BASELINE
		CONSTRUCTION LAYOUT
		ZONING LINE
		TOWN LINE
		LIMIT OF DISTURBANCE
		WETLAND LINE WITH FLAG
		BANK LINE WITH FLAG
		FLOODPLAIN
BLSF		BORDERING LAND SUBJECT TO FLOODING
100'BZ		WETLAND BUFFER ZONE
NDZ		NO DISTURB ZONE
200'RA		200' RIVERFRONT AREA
		GRAVEL ROAD
EOP		EDGE OF PAVEMENT
BB	BB	BITUMINOUS BERM
BC	BC	BITUMINOUS CURB
CC	CC	CONCRETE CURB
	CG	CURB AND GUTTER
CC	ECC	EXTRUDED CONCRETE CURB
CC	MCC	MONOLITHIC CONCRETE CURB
CC	PCC	PRECAST CONC. CURB
SGE	SGE	SLOPED GRAN. EDGING
VGC	VGC	VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAWCUT
		BUILDING
	EN	BUILDING ENTRANCE
	LD	LOADING DOCK
		BOLLARD
D	D	DUMPSTER PAD
		SIGN
		DOUBLE SIGN
		STEEL GUARDRAIL
		WOOD GUARDRAIL
		PATH
		TREE LINE
		WIRE FENCE
		FENCE
		STOCKADE FENCE
		STONE WALL
		RETAINING WALL
		STREAM / POND / WATER COURSE
		DETENTION BASIN
		STRAW BALE
		SILT FENCE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
10	10	PARKING COUNT
	C10	COMPACT PARKING STALLS
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
		CROSSWALK
		ACCESSIBLE CURB RAMP
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING

Exist.	Prop.	
		CONCRETE
		HEAVY DUTY PAVEMENT
		RIPRAP
		SCOUR PROTECTION
		CONSTRUCTION ENTRANCE
		LAND UNDER WATER
27.35 TC×	27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	26.85 BC×	BOTTOM OF CURB ELEVATION
132.75×	132.75×	SPOT ELEVATION
45.0 TW× 38.5 BW	45.0 TW× 38.5 BW×	TOP & BOTTOM OF WALL ELEVATION
		BORING LOCATION
		TEST PIT LOCATION
MW	MW	MONITORING WELL
UD	UD	UNDERDRAIN
12"D	12"D	DRAIN
6"RD	6"RD	ROOF DRAIN
12"S	12"S	SEWER
FM	FM	FORCE MAIN
OHW	OHW	OVERHEAD WIRE
6"W	6"W	WATER
4"FP	4"FP	FIRE PROTECTION
	2"DW	DOMESTIC WATER
3"G	G	GAS
E	E	ELECTRIC
STM	STM	STEAM
T	T	TELEPHONE
FA	FA	FIRE ALARM
CATV	CATV	CABLE TV
		CATCH BASIN
		DOUBLE CATCH BASIN
		GUTTER INLET
		DRAIN MANHOLE
TD		TRENCH DRAIN
		PLUG OR CAP
CO	CO	CLEANOUT
		FLARED END SECTION
		HEADWALL
S		SEWER MANHOLE
CS	CS	CURB STOP & BOX
WV	WV	WATER VALVE & BOX
TSV	TSV	TAPPING SLEEVE, VALVE & BOX
		SIAMESE CONNECTION
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
W	W	WATER WELL
GG	GG	GAS GATE
GM	GM	GAS METER
E	EMH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
T	TMH	TELEPHONE MANHOLE
T	T	TRANSFORMER PAD
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
HH	HH	HAND HOLE
PB	PB	PULL BOX
Matchline		MATCHLINE

Abbreviations

General

ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
CONC	CONCRETE
CNO	COULD NOT OPEN
DYL	DASHED YELLOW LINE
DWL	DASHED WHITE LINE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FINISHED FLOOR ELEVATION
GRAN	GRANITE
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NPV	NO PIPES VISISBLE
NTS	NOT TO SCALE
PERF	PERFORATED
PR	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWL	SINGLE WHITE LINE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
G|	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
|=	INVERT ELEVATION
LP	LIGHT POLE
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
SMH	SEWER MANHOLE
UG	UNDERGROUND
UP	UTILITY POLE

Notes:

General

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL NOTIFY THE TOWN OF WINCHESTER TO MARK ALL TOWN OWNED WATER, SEWER, AND DRAINAGE UTILITIES PRIOR TO PERFORMING ANY EXCAVATION OR GRADING ACTIVITIES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
4. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
5. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
14. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR IS TO FILE A DEWATERING GENERAL PERMIT (DGP) WITH THE EPA IN ACCORDANCE WITH NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE OWNER HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA
15. CONTRACTOR SHALL COMPLY WITH THE MASSDEP STATE REVOLVING FUND RETROFIT REQUIREMENTS.
16. ALL GRANITE CURBING SHALL BE GRANITE CURB TYPE VB.

Utilities

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR IT'S REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE CONSTRUCTION PLAN SHEET.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:

   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH

   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH

   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
6. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
7. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
8. ALL DRAINAGE STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
3. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
4. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
5. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Demolition

1. CONTRACTOR SHALL PROTECT ALL TREES AND LANDSCAPING NOT SHOWN TO BE REMOVED. CLEARING, CUTTING, OR LIMBING BEYOND LIMITS SHOWN IS PROHIBITED WITHOUT PRIOR APPROVAL FROM THE TOWN. THE TOWN MUST APPROVE OF THE TEMPORARY STONE DUST PATH ALIGNMENT PRIOR CLEARING, CUTTING, OR LIMBING FOR THE PATH.
2. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH.
3. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
4. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
4 THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
5. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

1. CONTRACTOR SHALL NOTIFY THE CONSERVATION AGENT ASSIGNED TO THE PROJECT BY THE CONSERVATION COMMISSION AT LEAST TWO BUSINESS DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION SO ALL EROSION CONTROLS CAN BE INSPECTED AND APPROVED.
2. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
3. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
4. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Flood Contingency Plan

DURING CONSTRUCTION, THE CONTRACTOR SHALL MONITOR THE NATIONAL WEATHER SERVICE FORECAST OFFICE FOR WEATHER UPDATES. THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION VEHICLES FROM THE FLOODPLAIN AREA EXCEPT THOSE NECESSARY TO IMPLEMENT THE FLOOD CONTINGENCY PLAN WHEN A "FLOOD WATCH" HAS BEEN ISSUED. THE CONTRACTOR SHALL INITIATE A FLOOD CONTINGENCY PLAN WHEN A "FLOOD WARNING" HAS BEEN ISSUED FOR THE ABERJONA RIVER OR MIDDLESEX COUNTY. FLOOD WATCHES AND WARNINGS ARE ISSUED BY RADIO BROADCAST AND ARE AVAILABLE VIA THE INTERNET AT HTTP://WWW.NWS.NOAA.GOV. THE CONTRACTOR SHALL HAVE STAFF AND MATERIALS AVAILABLE SEVEN DAYS PER WEEK, 24-HOURS A DAY TO IMPLEMENT THE FLOOD CONTINGENCY PLAN IF NEEDED. ONCE A "FLOOD WARNING" HAS BEEN ISSUED, THE PLAN SHALL INCLUDE:

1. CONTRACTOR SHALL INSTALL FLASH BOARDS OR OTHER APPROVED METHODS TO PERMIT FLOW THROUGH THE WORK AREA BRIDGE OPENING. AT LEAST THREE BRIDGE OPENINGS MUST REMAIN OPEN AND UNOBSTRUCTED TO FLOW DURING A FLOOD WATCH.
2. NOTIFICATION OF THE CONSERVATION ADMINISTRATOR AND TOWN ENGINEER WITHIN FOUR (4) HOURS OF ANY INTENDED AS WELL AS ALL COMPLETED ACTIONS DESCRIBED IN THIS SECTION.
3. REMOVAL OF ALL CONSTRUCTION VEHICLES AND EQUIPMENT FROM THE FLOOD PLAIN AREA AS SOON AS IS REASONABLY POSSIBLE.
4. SECURELY STAKING GEOTEXTILE OR JUTE MATTING OVER AREAS OF EXPOSED / UNSTABILIZED SOIL WITHIN THE CHANNEL.
5. THE CONTRACTOR WILL BE REQUIRED TO HAVE ENOUGH GEOTEXTILE OR JUTE MATTING ON SITE TO COMPLETELY COVER EXPOSED / UNSTABILIZED SOIL WITHIN THE CHANNEL.
6. COVER AREAS OF EXPOSED / UNSTABILIZED SOIL OUTSIDE OF THE ACTIVE CHANNEL, BUT WITHIN THE 100-YEAR FLOODPLAIN WITH SIX-MILLIMETER PLASTIC SHEETING. PLASTIC SHEETING SHOULD OVERLAP AT SEAMS A MINIMUM OF THREE FEET. THE PLASTIC SHEETING AROUND THE PERIMETER SHALL BE KEYED INTO THE SURROUNDING SOIL SIX INCHES. THE SEAMS AND PERIMETER OF THE PLASTIC SHEETING SHALL BE COVERED WITH ¾-INCH CRUSHED STONE BALLAST.
7. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A MINIMUM OF 3,200 SQUARE FEET OF PLASTIC SHEETING AND 32 CUBIC YARDS OF CRUSHED STONE AVAILABLE FOR BALLAST ON SITE AT ALL TIMES.
8. IN THE EVENT OF FLOODING, NO ACTIVE WORK WILL BE ALLOWED TO TAKE PLACE WITHIN THE WORK ZONE UNTIL THE FLOODWATERS HAVE RECEDED, AND ANY DAMAGE TO EROSION CONTROL MEASURES HAVE BEEN REPAIRED.

Existing Conditions Information

1. BASE PLAN: BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND BY VHB, INC. IN FEBRUARY AND MAY, 2016.
2. TOPOGRAPHY: ELEVATIONS ARE BASED ON NAVD88.
3. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS WERE OBTAINED FROM LAHLAF GEOTECHNICCAL CONSULTING, DATED MARCH 31, 2016.
4. TEMPORARY CONSTRUCTION AND ACCESS LICENSE AGREEMENT HAVE BEEN OBTAINED BETWEEN THE BOARD OF SELECTMEN OF THE TOWN OF WINCHESTER, MASSACHUSETTS, AND THE VILLAGE IN WINCHESTER CONDOMINIUM TRUST.

Document Use

1. THESE PLANS AND CORRESPONDING CADD DOCUMENTS ARE INSTRUMENTS OF PROFESSIONAL SERVICE, AND SHALL NOT BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE OTHER THAN FOR WHICH IT WAS CREATED WITHOUT THE EXPRESSED, WRITTEN CONSENT OF VHB. ANY UNAUTHORIZED USE, REUSE, MODIFICATION OR ALTERATION, INCLUDING AUTOMATED CONVERSION OF THIS DOCUMENT SHALL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO VHB.

WINCHESTER
SWANTON STREET
EXISTING CONDITIONS
SHEET 3 OF 42

13387.00-EX.DWG Plotted on 17-Nov-2020 12:44 PM

N/F
8-10 CHAPIN CT
13-317

N/F
6 CHAPIN CT
13-316

N/F
CHAPIN TRUST
8-10 CHAPIN ST
13-315

N/F
THE VILLAGE IN WINCHESTER
CONDOMINIUM
171 SWANSTON STREET
13-343-444

ABERJONA RIVER
NOTA

WETLAND

VILLAGE IN WINCHESTER
CONDOMINIUM TEMPORARY
ACCESS AGREEMENT AREA

N/F
JAMES B RAVENSCROFT JR
161 SWANTON ST
13-314

BENCHMARK# 1
NORTH CORNER OF
ABUTMENT
ELEVATION=29.25'

BENCHMARK# 2
SPIKE SET ON
16" TREE
ELEVATION=24.82'

SWANTON STREET
(PUBLIC)

N/F
184 SWANTON ST LLC
184 SWANTON ST
10-216

N/F
TOWN OF WINCHESTER PARKS DEPT
0 SWANTON ST
10-212

N/F
PAUL N + JACALYN MASI
166-168 SWANTON ST
10-211

N/F
HEIRS OF EVELYN CORBY
158-160 SWANTON ST
10-209

0 15 FEET

WINCHESTER
SWANTON STREET
SITE PREP DEMO AND EROSION CONTROL PLAN
SHEET 4 OF 42

13387.00-ER.DWG Plotted on 17-Nov-2020 12:44 PM

SWANTON STREET

LIMIT OF WORK (TYP)

SEE SHEET 9 FOR WATER MANAGEMENT PLAN

TEMPORARY CONSTRUCTION FENCE (TYP.)

REMOVE TREE (TYP)

SEE SHEET 7 FOR PROPOSED ROADWAY IMPROVEMENTS

REMOVE AND DISPOSE OF VEGETATION

SILTSACK SEDIMENT TRAP (TYP)

RELOCATE UTILITY POLE

REMOVE AND DISPOSE DRAIN PIPE (TYP)

PROTECT EXISTING SANITARY LINE TO REMAIN ACTIVE.

PROPOSED SWANTON STREET BRIDGE REPLACEMENT. SEE BRIDGE PLANS.

REMOVE AND DISPOSE EXISTING BRIDGE ABUTMENTS (TYP)

PROTECT EXISTING 10" WATER LINE TO REMAIN ACTIVE.

REMOVE CLF AS NEEDED FOR CONSTRUCTION ACCESS

TREE PROTECTION FENCE (TYP.)

ABANDON 10" WATER LINE UNLESS ENCOUNTERED DURING CONSTRUCTION.

REMOVE AND DISPOSE EXISTING BRIDGE SUPERSTRUCTURE

PROTECT EXISTING GAS LINE TO REMAIN ACTIVE.

REMOVE AND DISPOSE GUARDRAIL

REMOVE AND DISPOSE EXISTING BRIDGE RAILING

REMOVE CLF FOR TEMPORARY PEDESTRIAN ACCESS. INSTALL CLF POSTS.

RETAIN EXISTING CHAIN LINK FENCE

TEMPORARY 5' WIDE 179' LONG STONE DUST PEDESTRIAN ACCESS PATH AROUND LIMIT OF WORK.

TEMPORARY CONSTRUCTION ENTRANCE

ABANDON EXISTING 10" WATER LINE BENEATH CHANNEL BOTTOM

SEE SHEET 10 FOR GRADING AND RESTORATION PLAN

CLEARING AND GRUBBING FOR THE TEMPORARY PATH TO BE LIMITED TO THE GRADING LIMITS. PATH ALIGNMENT MAY BE ADJUSTED IN THE FIELD TO AVOID IMPACTS TO MATURE TREES. ALL TREES GREATER THAN 4" DIAMETER TO BE PROTECTED. PATH ALIGNMENT TO BE APPROVED BY THE TOWN PRIOR TO CLEARING AND GRUBBING.

STAGING AND STOCKPILE AREA

REMOVE AND STORE EXISTING RIPRAP

SEE SHEET 9 FOR WATER MANAGEMENT PLAN

REMOVE TREE (TYP)

REMOVE AND DISPOSE DRAIN PIPE (TYP)

TEMPORARY STONE DUST PATH GRADING (TYP)

LIMIT OF CLEARING AND GRUBBING. ALL TREES GREATER THAN 4" DIAMETER TO BE PROTECTED (TYP)

REMOVE AND DISPOSE OF VEGETATION

STRAW BALE BARRIER LINEAR EROSION CONTROL (TYP)

SEE SHEET 10 FOR GRADING AND RESTORATION PLAN

TEMPORARY CONSTRUCTION FENCE

20.24'

BENCHMARK# 1
NORTH CORNER OF ABUTMENT
ELEVATION=29.25'

BENCHMARK# 2
SPIKE SET IN 16" TREE
ELEVATION=24.82'

N/F
THE VILLAGE IN WINCHESTER CONDOMINIUM
171 SWANSTON STREET
13-343-444

N/F
JAMES B RAVENSCROFT JR
161 SWANTON ST
13-314

N/F
184 SWANTON ST LLC
184 SWANTON ST
10-216

N/F
TOWN OF WINCHESTER PARKS DEPT
0 SWANTON ST
10-212

N/F
PAUL N + JACALYN MASI
166-168 SWANTON ST
10-211

N/F
HEIRS OF EVELYN CORBY
158-160 SWANTON ST
10-209

N/F
BARBARA CAPONE - LIFE ESTATE
49 TREMONT ST

N/F
TRUDY GLIDDEN
TREMONT ST

0 15
Feet

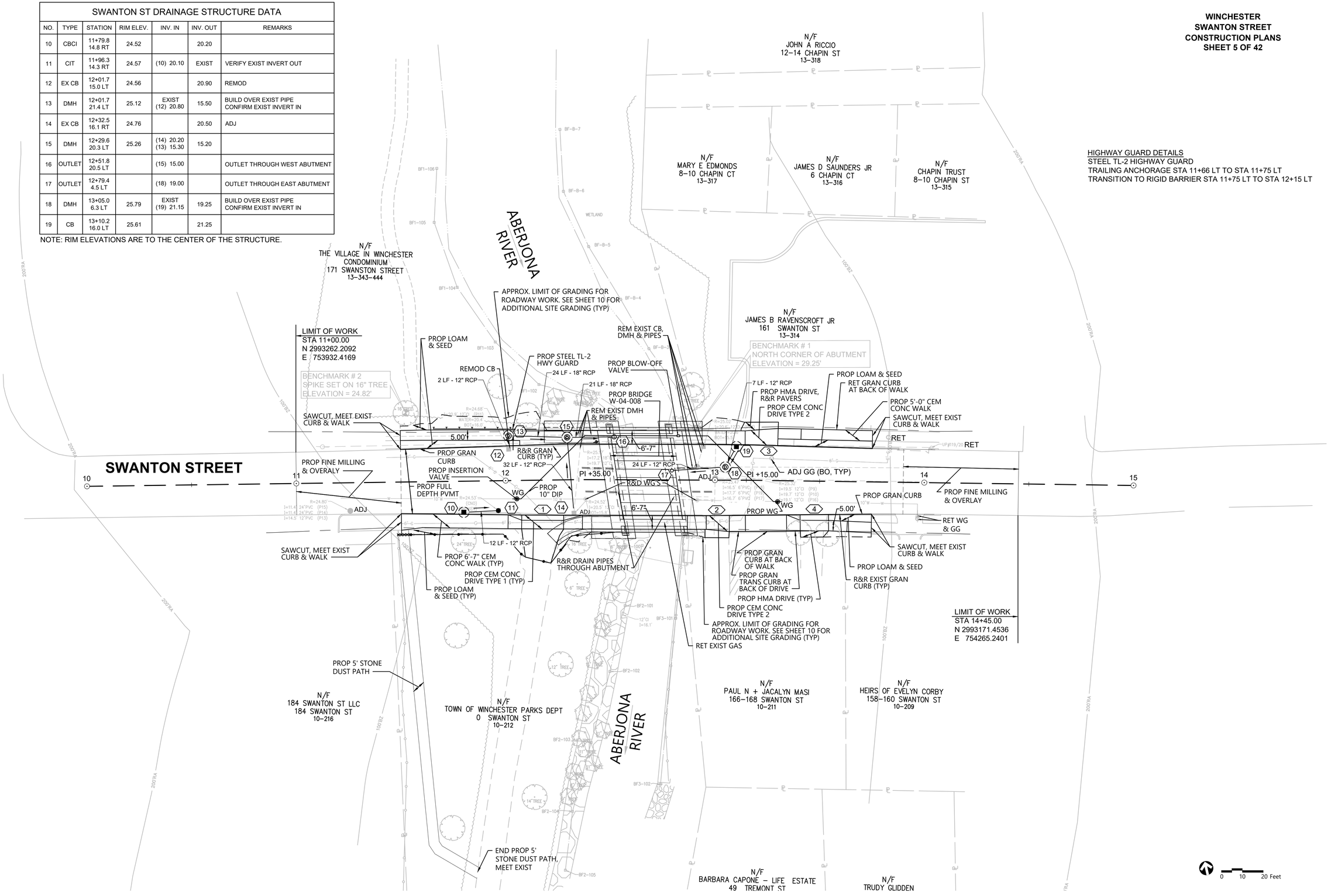
WINCHESTER
SWANTON STREET
CONSTRUCTION PLANS
SHEET 5 OF 42

13387_GEN.DWG Plotted on 17-Nov-2020 12:46 PM

SWANTON ST DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
10	CBCI	11+79.8 14.8 RT	24.52		20.20	
11	CIT	11+96.3 14.3 RT	24.57	(10) 20.10	EXIST	VERIFY EXIST INVERT OUT
12	EX CB	12+01.7 15.0 LT	24.56		20.90	REMOD
13	DMH	12+01.7 21.4 LT	25.12	EXIST (12) 20.80	15.50	BUILD OVER EXIST PIPE CONFIRM EXIST INVERT IN
14	EX CB	12+32.5 16.1 RT	24.76		20.50	ADJ
15	DMH	12+29.6 20.3 LT	25.26	(14) 20.20 (13) 15.30	15.20	
16	OUTLET	12+51.8 20.5 LT		(15) 15.00		OUTLET THROUGH WEST ABUTMENT
17	OUTLET	12+79.4 4.5 LT		(18) 19.00		OUTLET THROUGH EAST ABUTMENT
18	DMH	13+05.0 6.3 LT	25.79	EXIST (19) 21.15	19.25	BUILD OVER EXIST PIPE CONFIRM EXIST INVERT IN
19	CB	13+10.2 16.0 LT	25.61		21.25	

NOTE: RIM ELEVATIONS ARE TO THE CENTER OF THE STRUCTURE.

HIGHWAY GUARD DETAILS
STEEL TL-2 HIGHWAY GUARD
TRAILING ANCHORAGE STA 11+66 LT TO STA 11+75 LT
TRANSITION TO RIGID BARRIER STA 11+75 LT TO STA 12+15 LT



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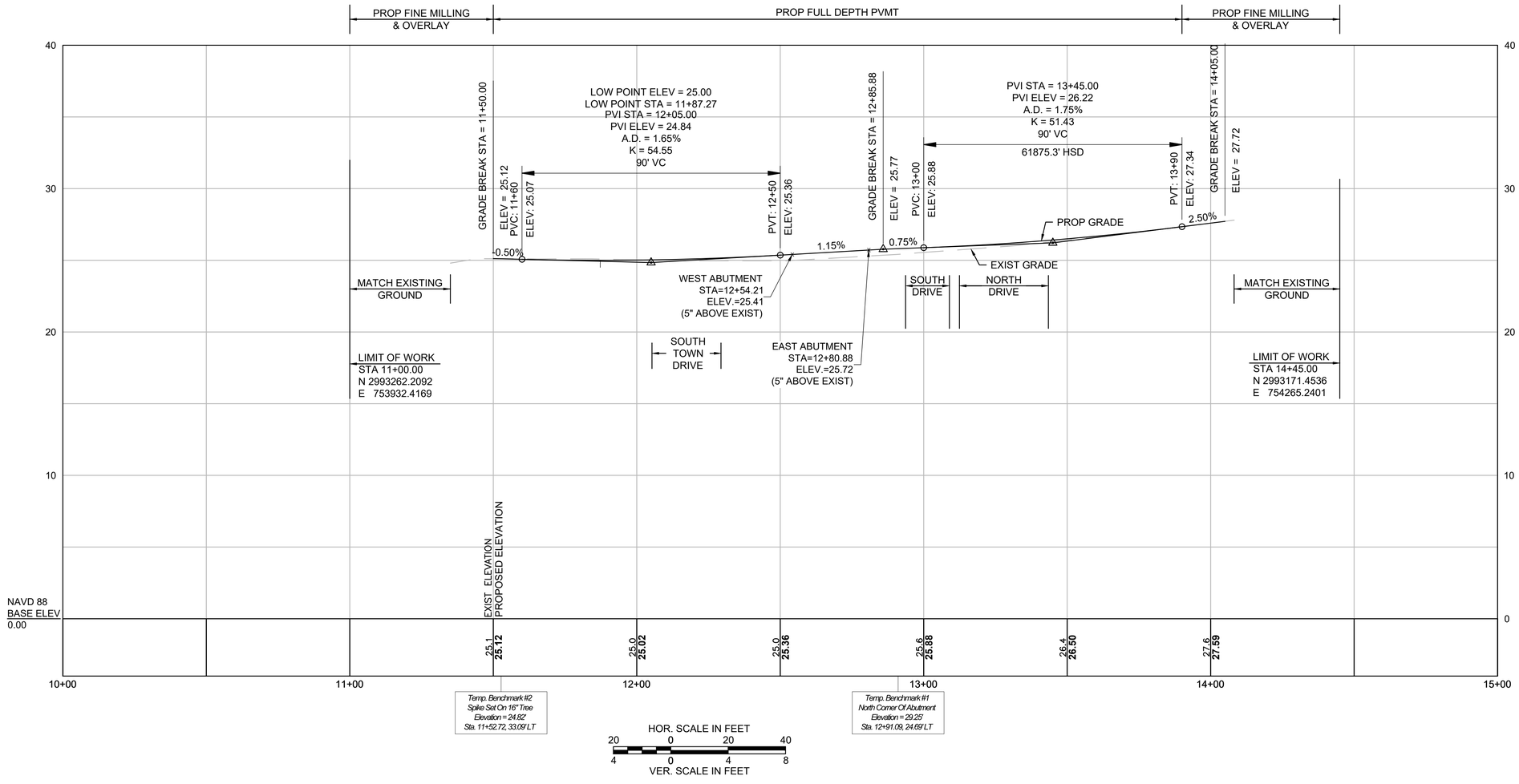
SWANTON ST



FOR CONSTRUCTION PLANS:
SEE SHEET NOS. 5

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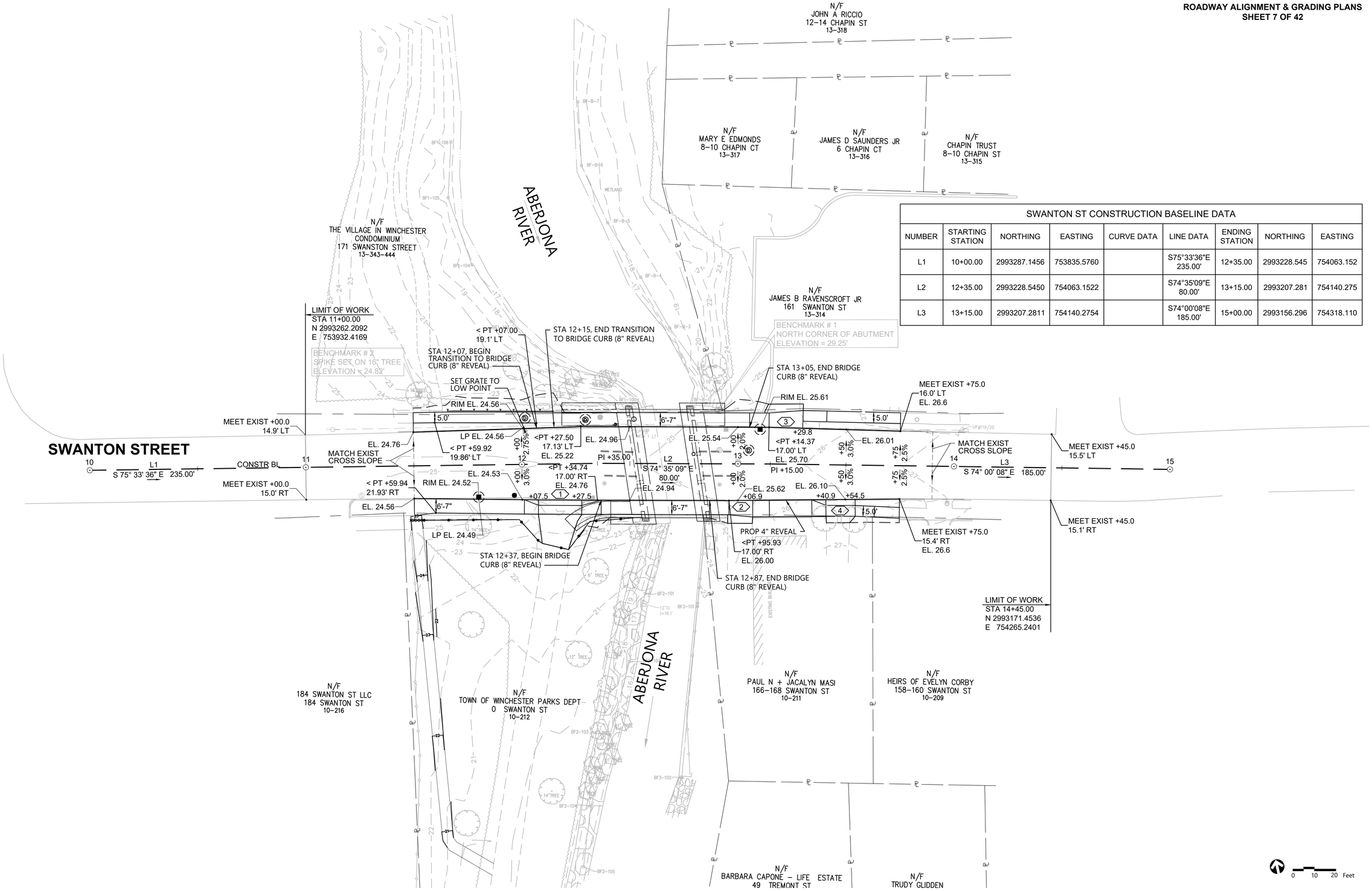


SWANTON ST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	2993287.1456	753835.5760		S75°33'36"E 235.00'	12+35.00	2993228.545	754063.152
L2	12+35.00	2993228.5450	754063.1522		S74°35'09"E 80.00'	13+15.00	2993207.281	754140.275
L3	13+15.00	2993207.2811	754140.2754		S74°00'08"E 185.00'	15+00.00	2993156.296	754318.110

WINCHESTER
SWANTON STREET
STRIPING PLANS
SHEET 8 OF 42

13387_STRP.DWG Plotted on 17-Nov-2020 12:48 PM

N/F
JOHN A RICCIO
12-14 CHAPIN ST
13-318

N/F
MARY E EDMONDS
8-10 CHAPIN CT
13-317

N/F
JAMES D SAUNDERS JR
6 CHAPIN CT
13-316

N/F
CHAPIN TRUST
8-10 CHAPIN ST
13-315

N/F
THE VILLAGE IN WINCHESTER
CONDOMINIUM
171 SWANSTON STREET
13-343-444

ABERJONA RIVER

WETLAND

N/F
JAMES B RAVENSCROFT JR
161 SWANTON ST
13-314

LIMIT OF WORK
STA 11+00.00
N 2993262.2092
E 753932.4169

SWANTON STREET

10 11 12 13 14 15

DBYL

MEET EXIST STRIPING

SWL

+27.40

+35.00 PI

+15.00 PI

+19.05

+19.34

6.0'

11.0'

PROP BRIDGE
W-04-008

EXISTING BUILDING

LIMIT OF WORK
STA 14+45.00
N 2993171.4536
E 754265.2401

N/F
184 SWANTON ST LLC
184 SWANTON ST
10-216

N/F
TOWN OF WINCHESTER PARKS DEPT
0 SWANTON ST
10-212

ABERJONA RIVER

N/F
PAUL N + JACALYN MASI
166-168 SWANTON ST
10-211

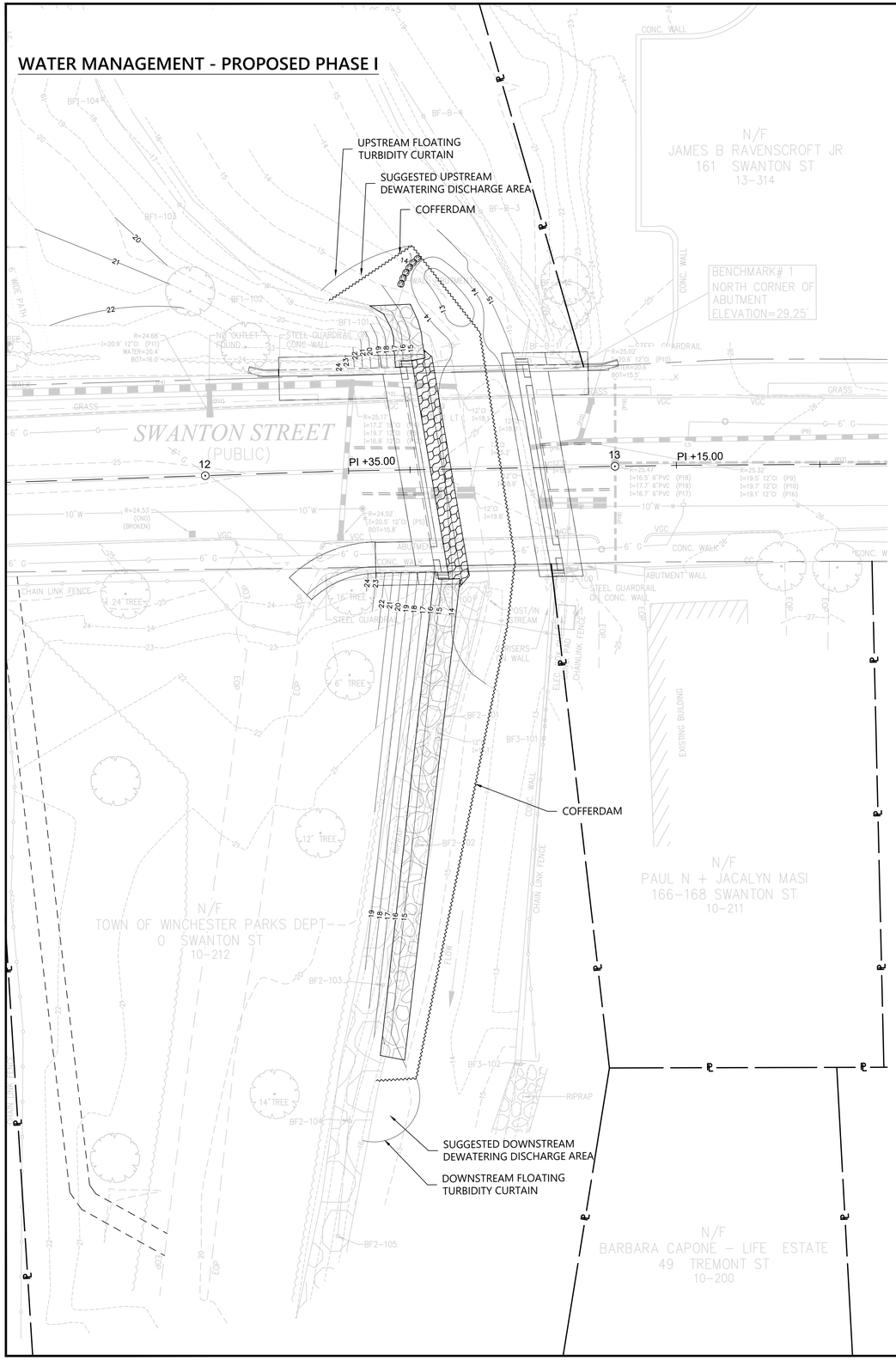
N/F
HEIRS OF EVELYN CORBY
158-160 SWANTON ST
10-209

N/F
BARBARA CAPONE - LIFE ESTATE
49 TREMONT ST

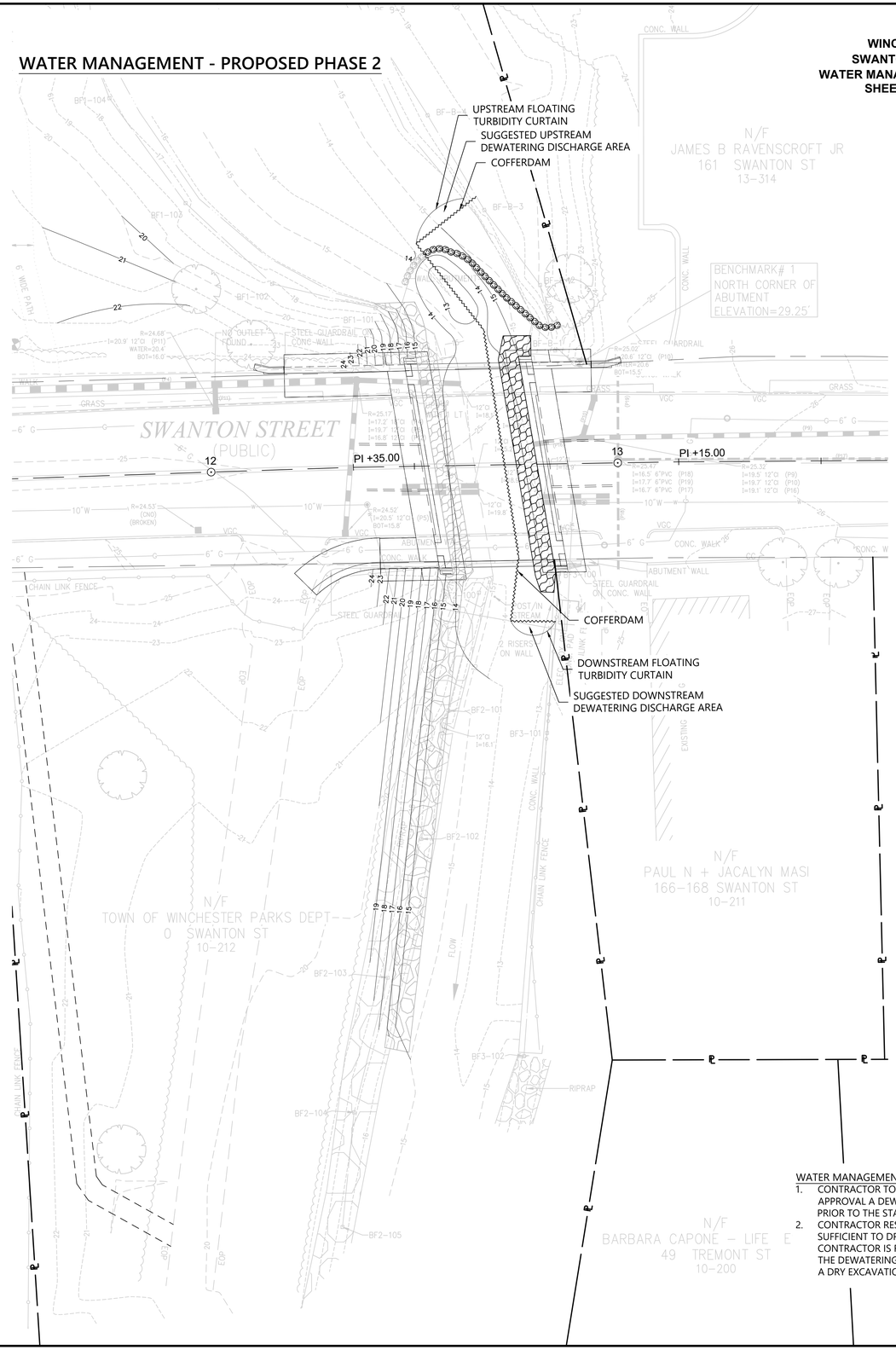
N/F
TRUDY GLIDDEN

0 10 20 Feet

WATER MANAGEMENT - PROPOSED PHASE I



WATER MANAGEMENT - PROPOSED PHASE 2



WINCHESTER
SWANTON STREET
WATER MANAGEMENT PLANS
SHEET 9 OF 42

WATER MANAGEMENT NOTES:

1. CONTRACTOR TO DESIGN AND SUBMIT FOR APPROVAL A DEWATERING AND DIVERSION PLAN PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR RESPONSIBLE TO DEWATER AT A RATE SUFFICIENT TO DRY OUT THE COFFERDAM AREA. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE DEWATERING SYSTEM IS SUFFICIENT TO MAINTAIN A DRY EXCAVATION.

0 15
Feet

13387.00-WM.DWG Plotted on 17-Nov-2020 12:48 PM

WINCHESTER
SWANTON STREET
SITE GRADING AND RESTORATION PLAN
SHEET 10 OF 42

13387.00-GR.DWG Plotted on 17-Nov-2020 12:49 PM

RESPREAD SURPLUS MATERIAL EXCAVATED FROM WITHIN THIS PARCEL. (SEE NOTE 3)

RESTORED BANK

PROPOSED GRADING, SLOPE AT 2(H):1(V)

LOAM AND SEED ALL DISTURBED AREAS

EROSION CONTROL BLANKET

INSTALL J-HOOK ROCK VANE

CONTRACTOR TO KEY ROCK VANE ARM CAREFULLY TO PREVENT ANY DAMAGE TO EXISTING ROOT MASS.

SEE SHEET 11 FOR PLANTING PLAN AND DETAILS

SEE DRAINAGE IMPROVEMENTS IN CONSTRUCTION PLANS ON SHEET 5 (TYP)

SEE SHEET 7 FOR ROADWAY ALIGNMENT AND GRADING PLAN (TYP)

SEE BRIDGE PLANS (TYP)

SEE BRIDGE PLANS FOR DECORATIVE BRIDGE RAILING DETAILS (TYP)

SCOUR PROTECTION

REMOVE AND DISPOSE EXISTING CLF. PROPOSED 60" BLACK VINYL CLF.

REMOVE AND DISPOSE EXISTING CLF GATE. PROPOSED 60" BLACK VINYL CLF GATE.

LOAM AND SEED ALL DISTURBED AREAS

RESTORE EXISTING BITUMINOUS PATH

PROPOSED GRADING, SLOPE AT 2(H):1(V)

EROSION CONTROL BLANKET

SET 12" CI OUTFALL INV: 16.3'

RESTORED BANK

SEE SHEET 11 FOR PLANTING PLAN AND DETAILS

REMOVE TEMPORARY STONE DUST PEDESTRIAN PATH. RESTORE TO EXISTING GRADE. LOAM AND SEED.

N/F
THE VILLAGE IN WINCHESTER I CONDOMINIUM
171 SWANSTON STREET
13-343-444

N/F
JAMES B RAVENSCROFT JR
161 SWANTON ST
13-314

BENCHMARK# 1
NORTH CORNER OF ABUTMENT
ELEVATION=29.25'

BENCHMARK# 2
SPIKE SET ON 16" TREE
ELEVATION=24.82'

SWANTON STREET
(PUBLIC)

PI +35.00

PI +15.00

N/F
184 SWANTON ST LLC
184 SWANTON ST
10-216

N/F
TOWN OF WINCHESTER PARKS DEPT
0 SWANTON ST
10-212

N/F
PAUL N + JACALYN MASI
166-168 SWANTON ST
10-211

N/F
HEIRS OF EVELYN CORBY
158-160 SWANTON ST
10-209

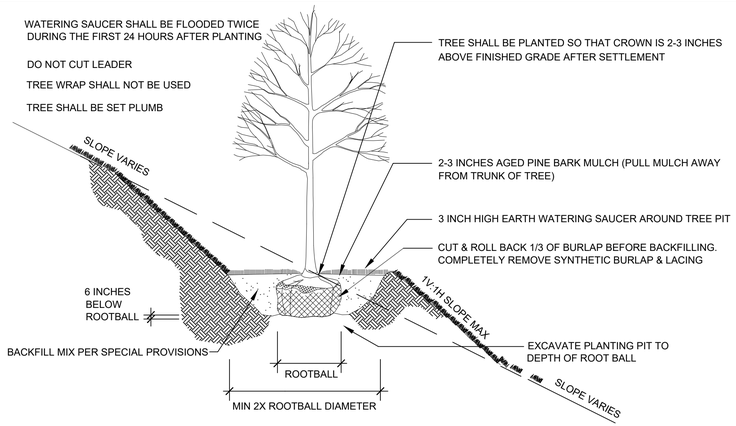
N/F
BARBARA CAPONE - LIFE ESTATE
49 TREMONT ST

N/F
TRUDY GLIDDEN
45 TREMONT ST

NOTES:

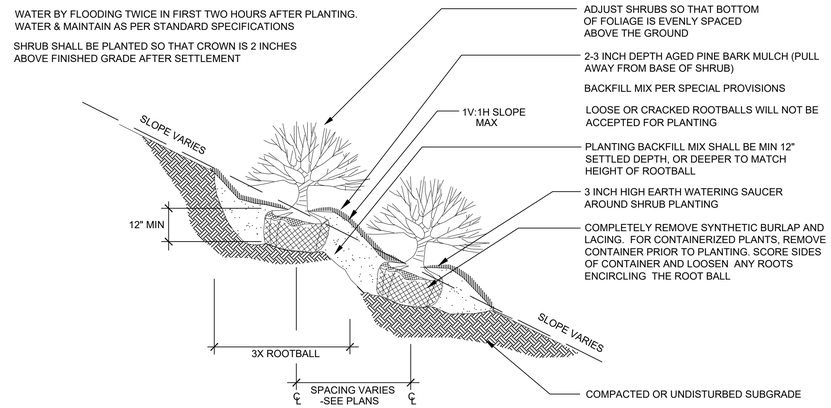
1. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING CONDITION. VEGETATED AREAS SHALL AT A MINIMUM RECEIVE 6-INCHES OF LOAM AND SEED.
2. CONTRACTOR SHALL REUSE EXISTING RIPRAP FROM ARMORED BANK AND SUPPLEMENT OR DISPOSE OF SURPLUS AS NECESSARY.
3. SURPLUS MATERIAL EXCAVATED WITHIN THE PROPERTY NORTH OF THE BRIDGE SHALL BE RE-SPREAD ON THE PARCEL WITHIN THE LIMIT OF WORK. SUCH MATERIAL SHOULD NOT BE DISPOSED OF BEYOND THIS BOUNDARY. CARE SHOULD BE TAKEN TO MINIMIZE IMPACTS TO EXISTING VEGETATION TO THE EXTENT PRACTICABLE.

0 15
Feet


WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING
DO NOT CUT LEADER
TREE WRAP SHALL NOT BE USED
TREE SHALL BE SET PLUMB
TREE SHALL BE PLANTED SO THAT CROWN IS 2-3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT
SLOPE VARIES
2-3 INCHES AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)
3 INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT
CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING
1V:1H SLOPE MAX
6 INCHES BELOW ROOTBALL
BACKFILL MIX PER SPECIAL PROVISIONS
EXCAVATE PLANTING PIT TO DEPTH OF ROOT BALL
ROOTBALL
SLOPE VARIES
MIN 2X ROOTBALL DIAMETER

DECIDUOUS TREE PLANTING ON SLOPE

SCALE: N.T.S.


WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS
SHRUB SHALL BE PLANTED SO THAT CROWN IS 2 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT
ADJUST SHRUBS SO THAT BOTTOM OF FOLIAGE IS EVENLY SPACED ABOVE THE GROUND
2-3 INCH DEPTH AGED PINE BARK MULCH (PULL AWAY FROM BASE OF SHRUB)
BACKFILL MIX PER SPECIAL PROVISIONS
1V:1H SLOPE MAX
LOOSE OR CRACKED ROOTBALLS WILL NOT BE ACCEPTED FOR PLANTING
PLANTING BACKFILL MIX SHALL BE MIN 12" SETTLED DEPTH, OR DEEPER TO MATCH HEIGHT OF ROOTBALL
SLOPE VARIES
3 INCH HIGH EARTH WATERING SAUCER AROUND SHRUB PLANTING
12" MIN
COMPLETELY REMOVE SYNTHETIC BURLAP AND LACING. FOR CONTAINERIZED PLANTS, REMOVE CONTAINER PRIOR TO PLANTING. SCORE SIDES OF CONTAINER AND LOOSEN ANY ROOTS ENCIRCLING THE ROOT BALL
SLOPE VARIES
3X ROOTBALL
SPACING VARIES -SEE PLANS
COMPACTED OR UNDISTURBED SUBGRADE

SHRUB PLANTING ON SLOPE

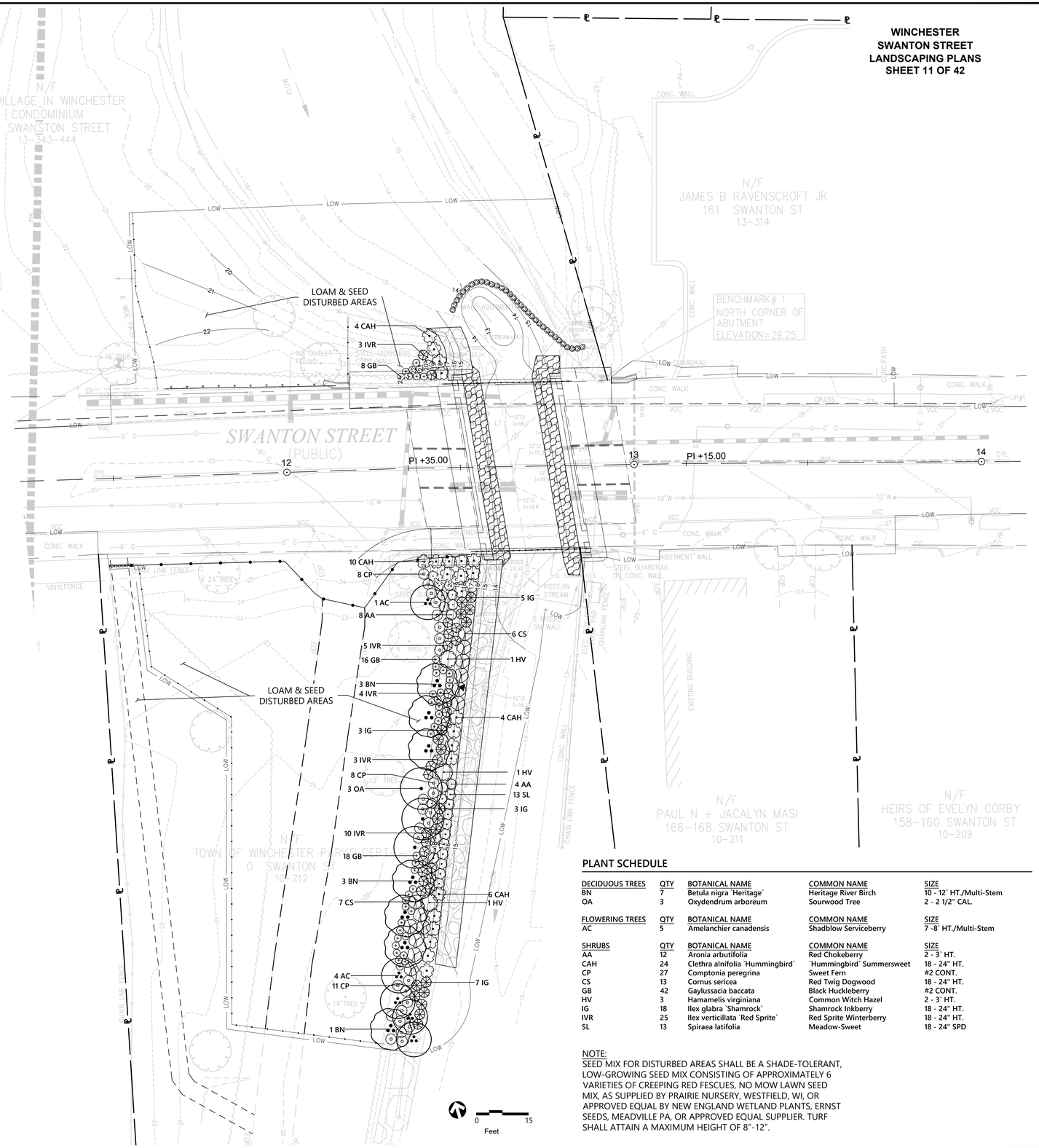
SCALE: N.T.S.

Planting Notes

1. ALL PROPOSED PLANTING LOCATIONS SHALL BE STAKED AS SHOWN ON THE PLANS FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL BELOW GRADE AND ABOVE GROUND UTILITIES AND NOTIFY OWNERS REPRESENTATIVE OF CONFLICTS.
3. NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE OF ANY CONFLICT.
4. A 3-INCH DEEP MULCH PER SPECIFICATION SHALL BE INSTALLED UNDER ALL TREES AND SHRUBS, AND IN ALL PLANTING BEDS, UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
5. ALL TREES SHALL BE BALLED AND BURLAPPED, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR SPECIFICATION, OR APPROVED BY THE OWNER'S REPRESENTATIVE.
6. FINAL QUANTITY FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLAN. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE REVIEWED BY LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND CONTRACT DOCUMENTS.
9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
10. AREAS DESIGNATED "LOAM & SEED" SHALL RECEIVE MINIMUM 6" OF LOAM AND SPECIFIED SEED MIX. LAWNS OVER 2:1 SLOPE SHALL BE PROTECTED WITH EROSION CONTROL FABRIC.
11. ALL DISTURBED AREAS NOT OTHERWISE NOTED ON CONTRACT DOCUMENTS SHALL BE LOAM AND SEEDED OR MULCHED AS DIRECTED BY OWNER'S REPRESENTATIVE.
12. THIS PLAN IS INTENDED FOR PLANTING PURPOSES. REFER TO SITE / CIVIL DRAWINGS FOR ALL OTHER SITE CONSTRUCTION INFORMATION.

Plant Maintenance Notes

1. CONTRACTOR SHALL PROVIDE COMPLETE MAINTENANCE OF THE LAWNS AND PLANTINGS. NO IRRIGATION IS PROPOSED FOR THIS SITE. THE CONTRACTOR SHALL SUPPLY SUPPLEMENTAL WATERING FOR NEW LAWNS AND PLANTINGS DURING THE ONE YEAR PLANT GUARANTEE PERIOD.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE COMPLETE LANDSCAPE MAINTENANCE WORK. WATER SHALL BE PROVIDED BY THE CONTRACTOR.
3. WATERING SHALL BE REQUIRED DURING THE GROWING SEASON, WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
4. WATER SHALL BE APPLIED IN SUFFICIENT QUANTITY TO THOROUGHLY SATURATE THE SOIL IN THE ROOT ZONE OF EACH PLANT.
5. CONTRACTOR SHALL REPLACE DEAD OR DYING PLANTS AT THE END OF THE ONE YEAR GUARANTEE PERIOD. CONTRACTOR SHALL TURN OVER MAINTENANCE TO THE FACILITY MAINTENANCE STAFF AT THAT TIME.



PLANT SCHEDULE

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
BN	7	Betula nigra `Heritage`	Heritage River Birch	10 - 12` HT./Multi-Stem
OA	3	Oxydendrum arboreum	Sourwood Tree	2 - 2 1/2" CAL.

FLOWERING TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AC	5	Amelanchier canadensis	Shadblow Serviceberry	7 -8` HT./Multi-Stem

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AA	12	Aronia arbutifolia	Red Chokeberry	2 - 3` HT.
CAH	24	Clethra alnifolia `Hummingbird`	`Hummingbird` Summersweet	18 - 24" HT.
CP	27	Comptonia peregrina	Sweet Fern	#2 CONT.
CS	13	Cornus sericea	Red Twig Dogwood	18 - 24" HT.
GB	42	Gaylussacia baccata	Black Huckleberry	#2 CONT.
HV	3	Hamamelis virginiana	Common Witch Hazel	2 - 3` HT.
IG	18	Ilex glabra `Shamrock`	Shamrock Inkberry	18 - 24" HT.
IVR	25	Ilex verticillata `Red Sprite`	Red Sprite Winterberry	18 - 24" HT.
SL	13	Spiraea latifolia	Meadow-Sweet	18 - 24" SPD

NOTE:
SEED MIX FOR DISTURBED AREAS SHALL BE A SHADE-TOLERANT, LOW-GROWING SEED MIX CONSISTING OF APPROXIMATELY 6 VARIETIES OF CREEPING RED FESCUES, NO MOW LAWN SEED MIX, AS SUPPLIED BY PRAIRIE NURSERY, WESTFIELD, WI, OR APPROVED EQUAL BY NEW ENGLAND WETLAND PLANTS, ERNST SEEDS, MEADVILLE PA, OR APPROVED EQUAL SUPPLIER. TURF SHALL ATTAIN A MAXIMUM HEIGHT OF 8"-12".

WINCHESTER
SWANTON STREET
CROSS SECTIONS
SHEET 12 OF 42

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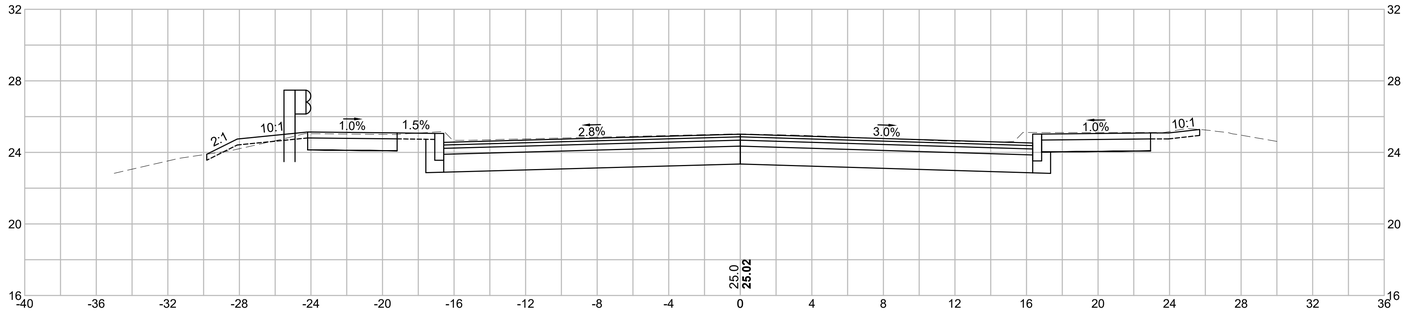
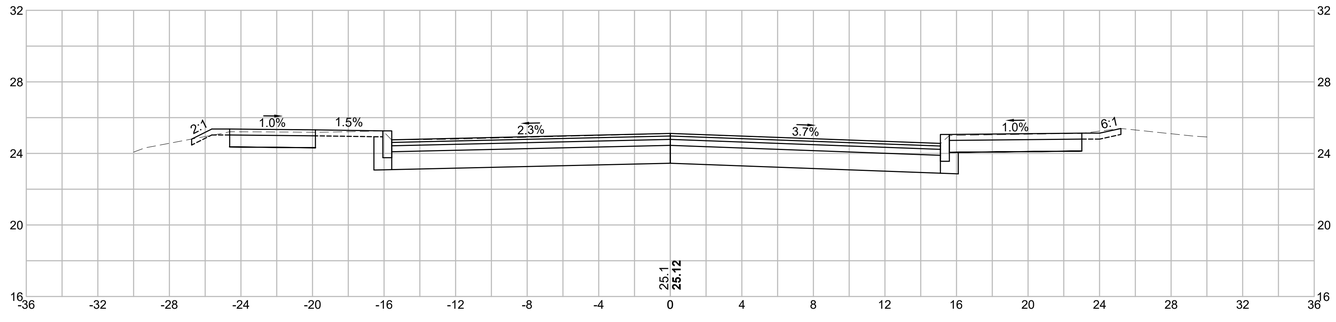
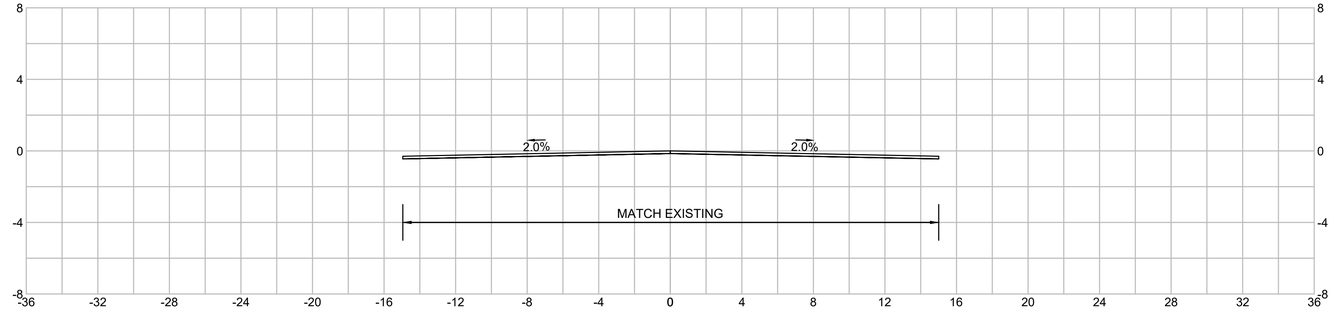
12+00



11+50



11+00

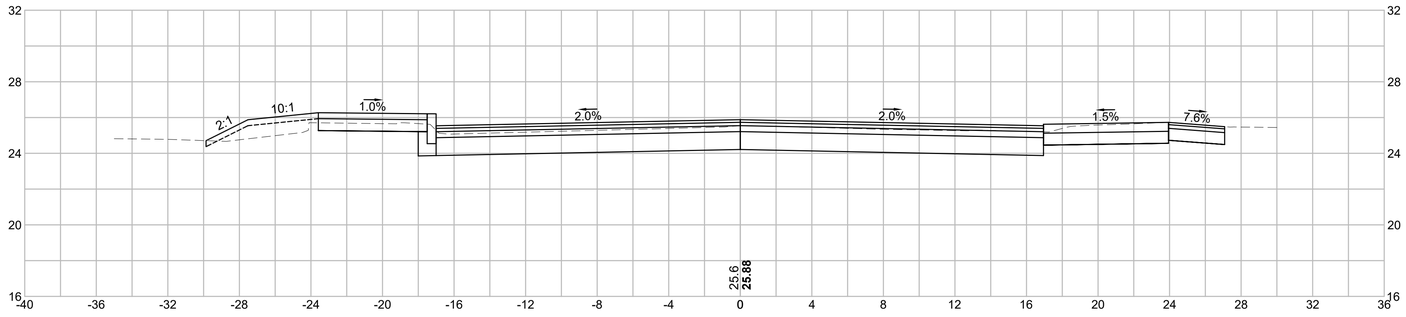


HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

WINCHESTER
SWANTON STREET
CROSS SECTIONS
SHEET 13 OF 42

13387_XSEC.DWG Plotted on 17-Nov-2020 12:49 PM

13+00



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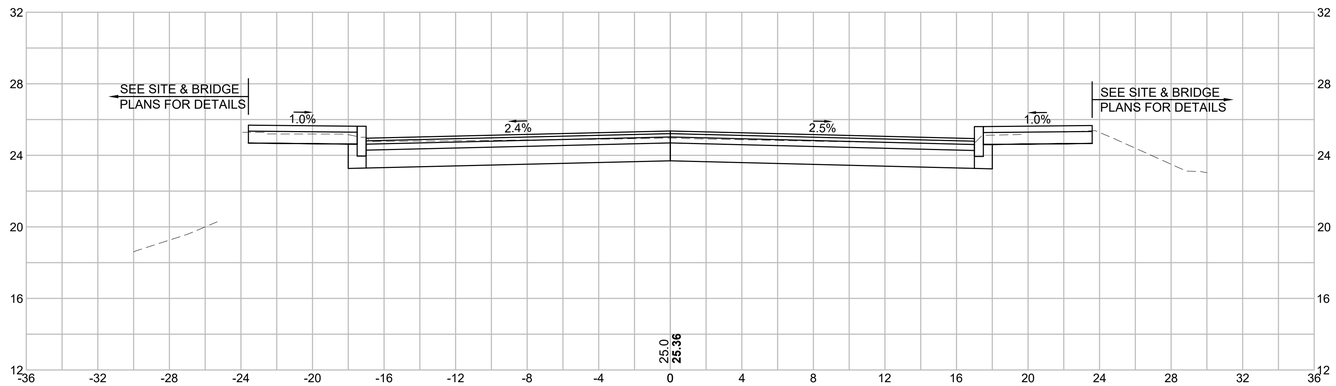

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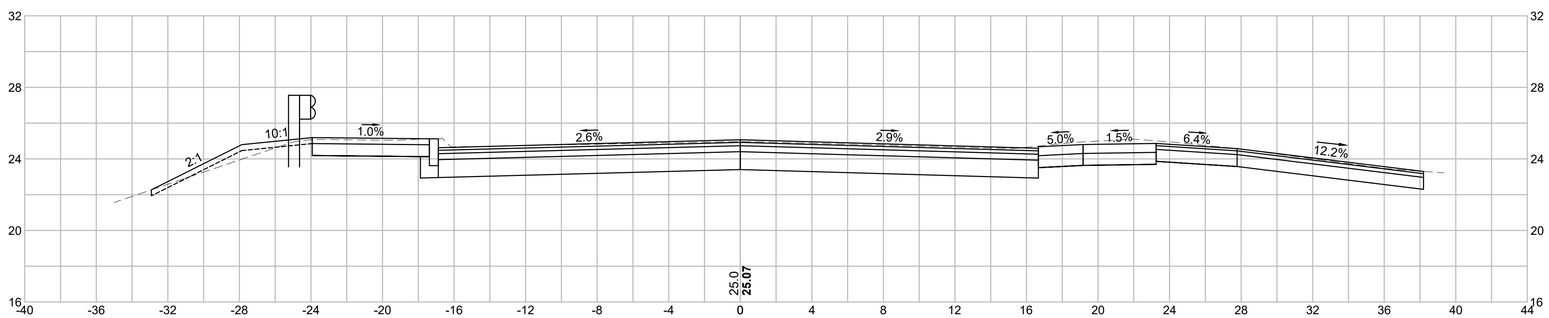
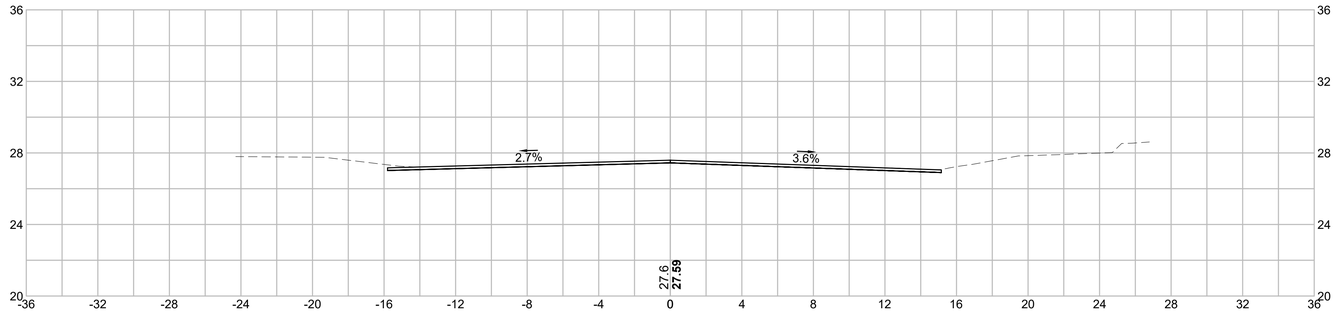


HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

WINCHESTER
SWANTON STREET
CROSS SECTIONS
SHEET 14 OF 42

13387_XSEC.DWG Plotted on 17-Nov-2020 12:49 PM

14+00



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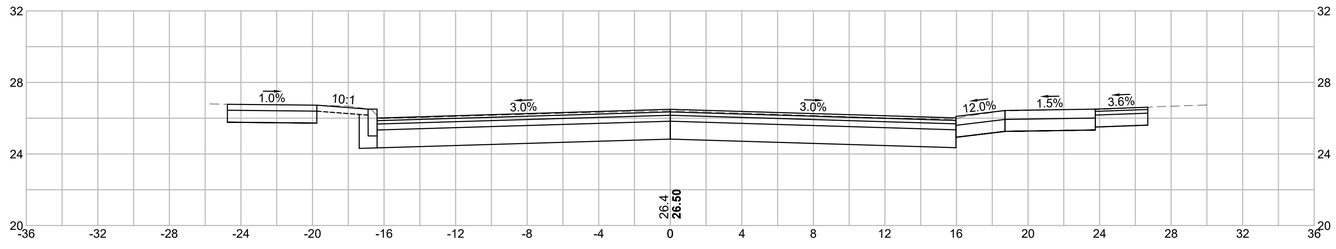

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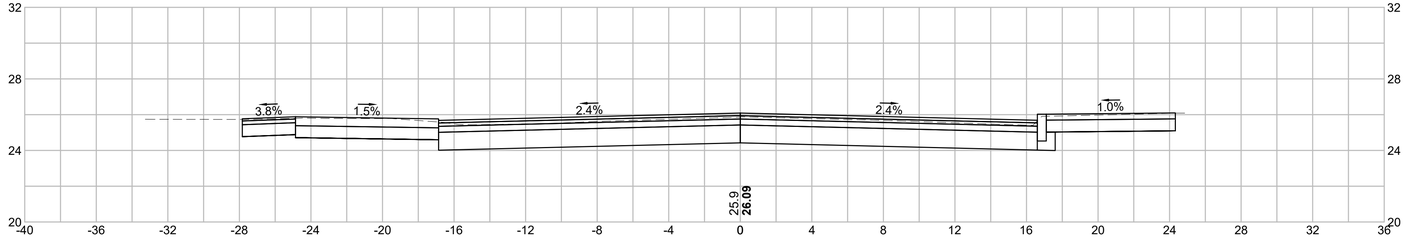
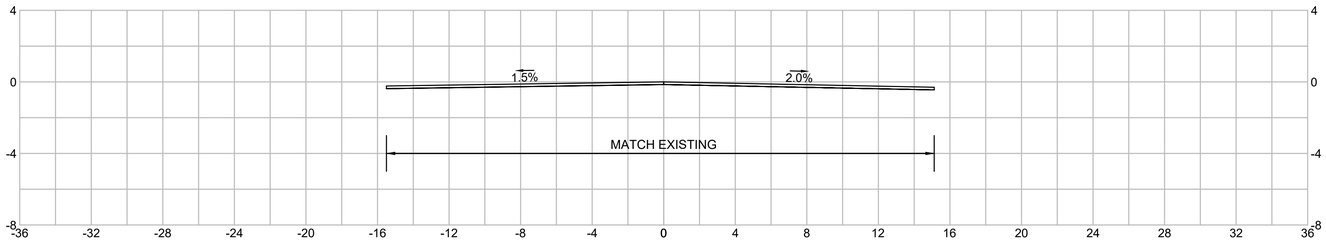


HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

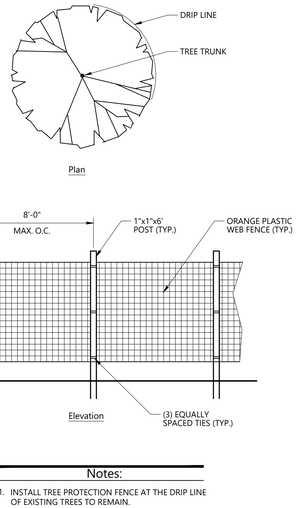
WINCHESTER
SWANTON STREET
CROSS SECTIONS
SHEET 15 OF 42

13387_XSEC.DWG Plotted on 17-Nov-2020 12:49 PM

14+45



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

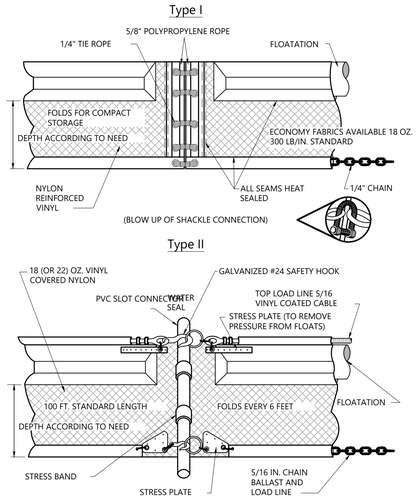


Notes:

1. INSTALL TREE PROTECTION FENCE AT THE DRIP LINE OF EXISTING TREES TO REMAIN.

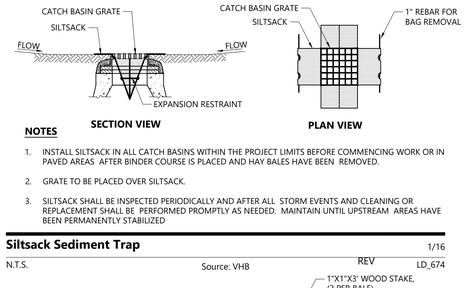
Tree Protection Fence 7/13

N.T.S. Source: VHB REV LD_610



Turbididty Curtain 7/07

N.T.S. Source: REV LD_

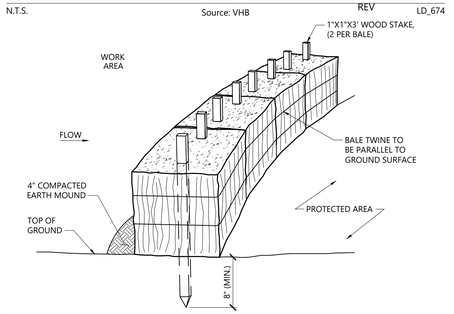


NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WITHIN THE PROJECT LIMITS BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

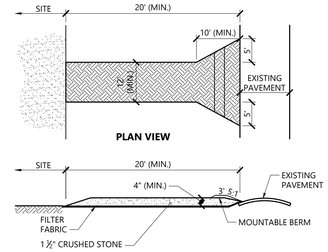
Siltsack Sediment Trap 1/16

N.T.S. Source: VHB REV LD_674



Straw Bale Barrier 1/16

N.T.S. Source: VHB LD_653

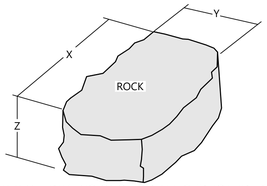


NOTES

1. ENTRANCE WIDTH SHALL BE A TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

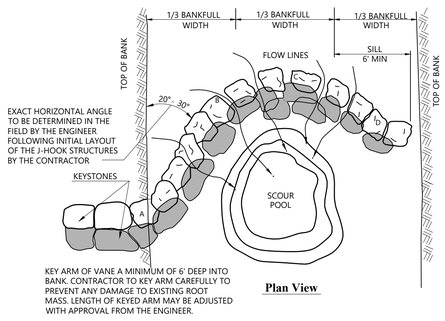
Temporary Construction Entrance REV 1/16

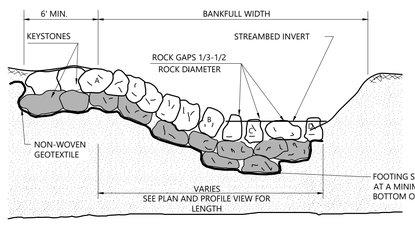
N.T.S. Source: VHB LD_682

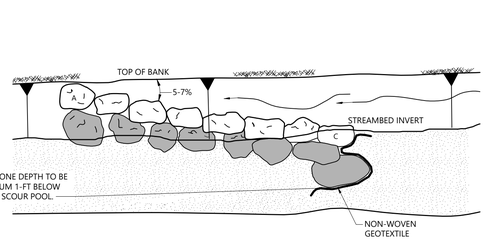


*** MINIMUM X-Y-Z DIMENSIONS FOR ALL STRUCTURE STONES SHALL MEET THE MINIMUM SIZE REQUIREMENTS GIVEN IN THE TABLE BELOW.

STRUCTURE TYPE	DIMENSION X	Y	Z
J-HOOK ROCK VANE	36"	30"	24"







J-HOOK ROCK VANE ELEVATIONS

LOCATION	EL.* (FT)
A	16.5
B	14.5
C	14.2
D	14.5

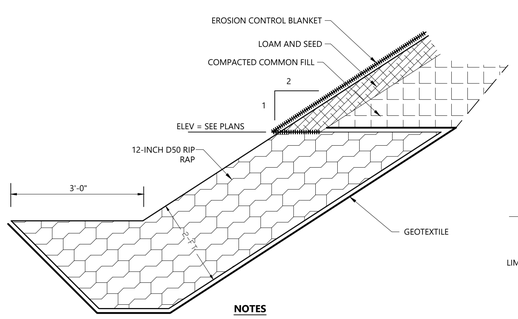
* ELEVATIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS. CONTRACTOR TO CONFIRM EXISTING ELEVATIONS IN THE FIELD PRIOR TO INSTALLING J-HOOK ROCK VANE STRUCTURE.

Rock Axis Detail

N.T.S.

J-Hook Rock Vanes

N.T.S. Source: VHB

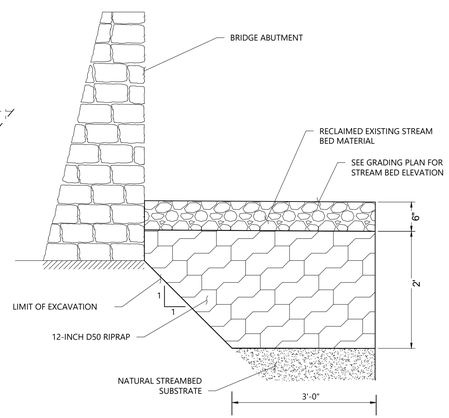


NOTES

1. REUSE EXISTING RIPRAP ARMORING FOR PROPOSED RIPRAP TOE AS NECESSARY.

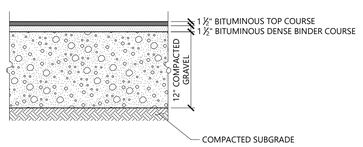
Restored Bank

N.T.S. Source: VHB



Scour Protection

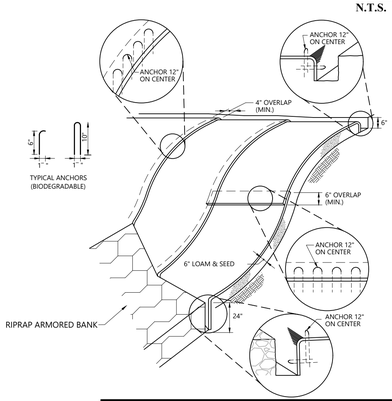
N.T.S. Source: VHB



STANDARD DUTY FLEXIBLE PAVEMENT

Bituminous Path Pavement Section 12/11

N.T.S. Source: VHB REV LD_430

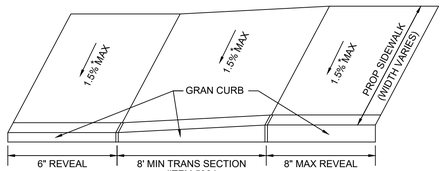


Notes:

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER ANCHORING.
2. ROLL THE BLANKET DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW. THE EDGES OF BLANKETS MUST BE ANCHORED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
3. ANCHOR BLANKET AT TRANSITION TO RIPRAP ARMORED BANK AT BOTTOM OF SLOPE IN AN 24" DEEP TRENCH. BACKFILL TRENCH WITH COMPACTED RIPRAP MATERIAL.
4. WHEN BLANKETS MUST BE SPLICED, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND ANCHOR BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS (TRITON ENVIRONMENTAL, COIR FIBER MATTING CM400, OR APPROVED EQUAL).
6. EROSION CONTROL BLANKETS SHALL BE INSTALLED AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

Erosion Control Blanket 1/10

N.T.S. Source: VHB REV LD_680



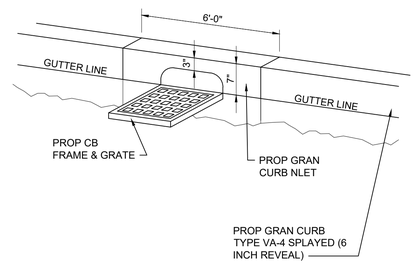
NOTE:

GRANITE CURB SHALL BE TRANSITIONED AT A RATE OF 1.5" MAX OF REVEAL PER 6.0' MINIMUM CURB LENGTH, AND 2" MAX OF REVEAL PER 8.0 MINIMUM CURB LENGTH. SEE GRADING PLANS FOR CURB REVEAL TRANSITIONS.

*TOLERANCE FOR CONSTRUCTION ±0.5%

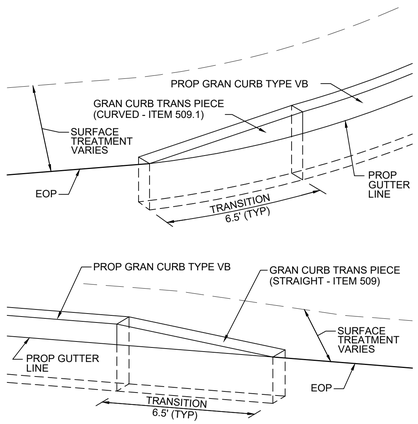
TYPICAL GRANITE CURB REVEAL TRANSITION

SCALE: NTS



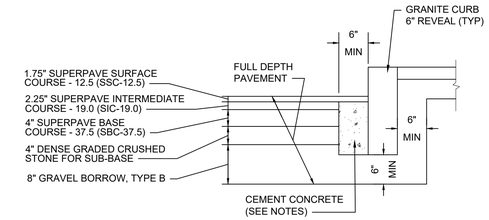
GRANITE CURB INLET

SCALE: NTS



GRANITE CURB TRANSITION PIECE

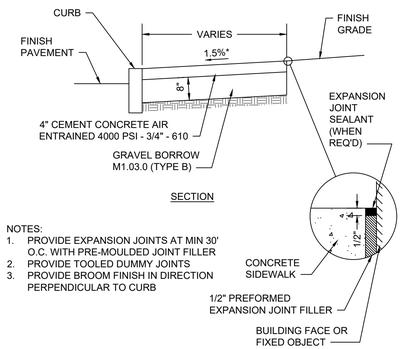
SCALE: NTS


GRANITE CURB 6" REVEAL (TYP)
6" MIN
1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5)
FULL DEPTH PAVEMENT
2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC-19.0)
4" SUPERPAVE BASE COURSE - 37.5 (SBC-37.5)
4" DENSE GRADED CRUSHED STONE FOR SUB-BASE
8" GRAVEL BORROW, TYPE B
6" MIN
6" MIN
CEMENT CONCRETE (SEE NOTES)

NOTES:
1. TO BE PLACED IF CURB IS INSTALLED AFTER HOT MIX ASPHALT
2. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB
3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN FULL DEPTH PAVEMENT

SCALE: NTS

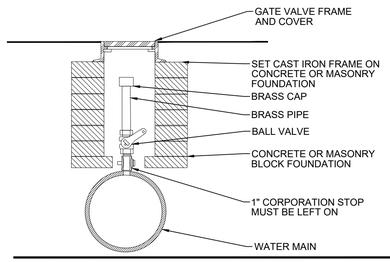


NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN 30' O.C. WITH PRE-MOULDED JOINT FILLER
2. PROVIDE TOOLED DUMMY JOINTS
3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB

*TOLERANCE FOR CONSTRUCTION ±0.5%

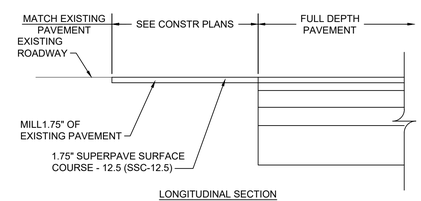
CEMENT CONCRETE SIDEWALK

SCALE: N.T.S.


GATE VALVE FRAME AND COVER
SET CAST IRON FRAME ON CONCRETE OR MASONRY FOUNDATION
BRASS CAP
BRASS PIPE
BALL VALVE
CONCRETE OR MASONRY BLOCK FOUNDATION
1" CORPORATION STOP MUST BE LEFT ON
WATER MAIN

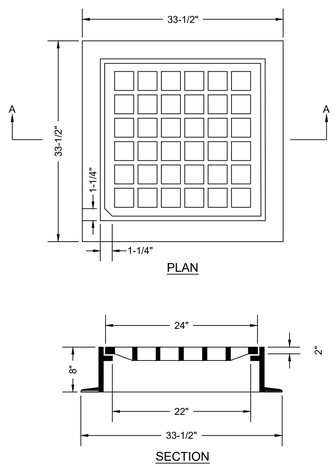
WATER HANDHOLE AND BLOW OFF

SCALE: NTS



FINE MILLING & OVERLAY

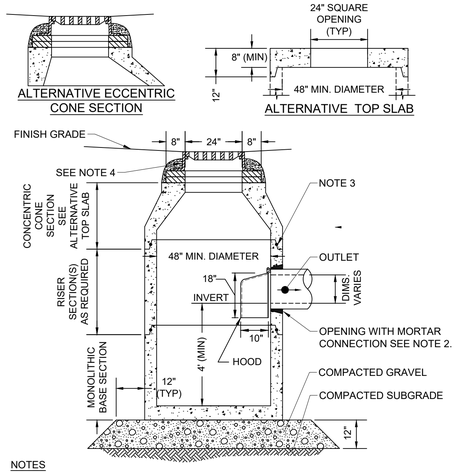
SCALE: N.T.S.



NOTES:
1. FRAME AND GRATE SHALL BE RATED FOR HS-20 LOADING.
2. MIN FRAME WEIGHT:
   4 FLANGE 295 LBS.
   3 FLANGE 265 LBS.
3. USE 3 FLANGE FRAMES AT CURB INLETS.
4. EJ NO. 5520M5 GRATE AND 5523 FRAME OR APPROVED EQUAL.

MUNICIPAL STANDARD CATCH BASIN FRAME & GRATE

SCALE: NTS

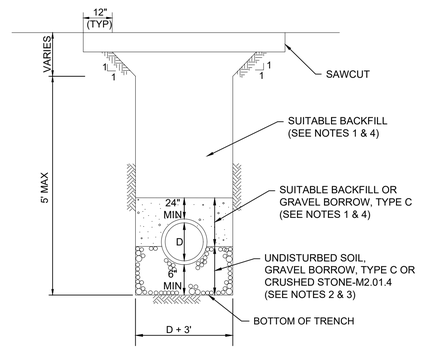


NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

CATCH BASIN (CB)

SCALE: NTS



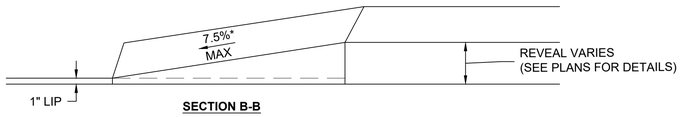
NOTES:
1. EXISTING MATERIAL OBTAINED FROM EXCAVATION THAT IS DETERMINED TO BE SUITABLE AND APPROVED BY THE ENGINEER SHALL BE USED. STONES LARGER THAN 6" SHALL NOT BE USED. BACKFILL SHALL BE PLACED IN 6" MAX LIFTS AND COMPACTED. BACKFILL PLACED WITH 24" ABOVE THE PIPE SHALL CONTAIN NO STONES LARGER THAN 2".
2. SOFT OR UNSUITABLE MATERIAL EXISTING BELOW THE BEDDING GRADE SHALL BE REMOVED AS DIRECTED. REPLACEMENT GRAVEL BORROW, TYPE C OR CRUSHED STONE SHALL BE COMPACTED.
3. CRUSHED STONE TO BE USED DURING WET CONDITIONS AS DIRECTED BY THE ENGINEER.
4. CONTROLLED DENSITY FILL TO BE USED ONLY WHEN CONVENTIONAL METHODS ARE UNUSUALLY DIFFICULT AS DETERMINED BY THE ENGINEER DUE TO OBSTRUCTIONS.
5. IN AREAS OF FULL DEPTH PAVEMENT, CONTINUE SUITABLE BACKFILL. IF OPEN TO VEHICLE TRAFFIC, USE HMA PAVEMENT DEPTHS IN 2.5" LIFTS (5" MIN)
6. IN AREAS OF MICROMILL & OVERLAY, PAVEMENT SHALL BE PLACED AS FOLLOWS: 2" SUPERPAVE SURFACE COURSE- 12.5 OVER SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19) PLACED IN 2.25" LIFTS.
7. THIS DETAIL ASSUMES FULL DEPTH PAVEMENT IS CONSTRUCTED AFTER PIPE IS INSTALLED.

TRENCH DETAIL

SCALE: NTS

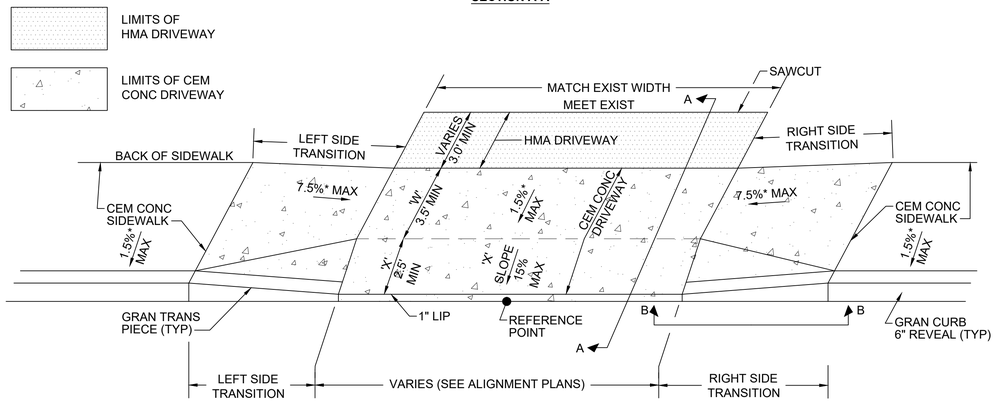
CEM CONC DRIVEWAY TYPE 1 DATA									
NO.	LOCATION (REF POINT)	ROADWAY GUTTER	'X'	'X' SLOPE	'W'	LEFT SIDE		RIGHT SIDE	
						REVEAL	TRANS	REVEAL	TRANS
1	12+17.5, 16.7' RT	1.15%	2.5'	5.0%	4.1'	8"	9'-0"	6"	6'-6"
4	13+47.7, 16.0' RT	1.75%	2.6'-2.8'	12.0%	5.0'-5.1'	6"	9'-0"*	4"	6'-6"***

NOTE: THE ROADWAY GUTTER SLOPES MATCH THE DIRECTION OF THE BASELINE.
*LEFT SIDE TRANSITION HAS A GRASS STRIP.
***ADDITIONAL TRANSITION CURB AT THE BACK OF WALK.



SECTION B-B

SECTION A-A



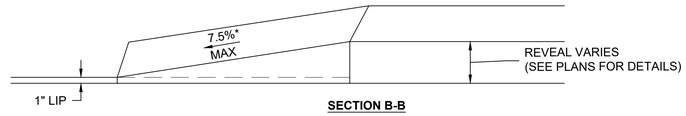
*TOLERANCE FOR CONSTRUCTION ±0.5%

CEM CONC DRIVEWAY TYPE 1

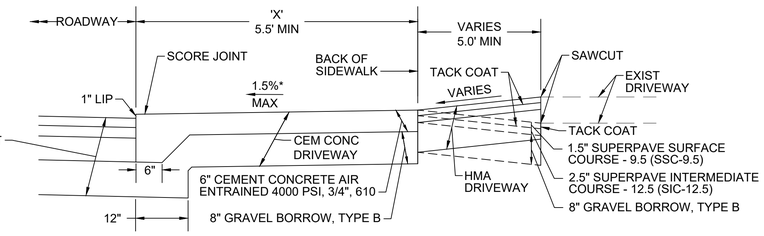
SCALE: NTS

CEM CONC DRIVEWAY TYPE 2 DATA							
NO.	LOCATION (REF POINT)	ROADWAY GUTTER	'X'	LEFT SIDE		RIGHT SIDE	
				REVEAL	TRANS	REVEAL	TRANS
2	13+01.4, 16.9' RT	0.75%	6.9'-7.7'	4"	7'-8"***	8"	9'-0"
3	13+22.0, 16.0' LT	1.75%	6.8'-8.2'	8"	9'-0"	6"	11'-0"***

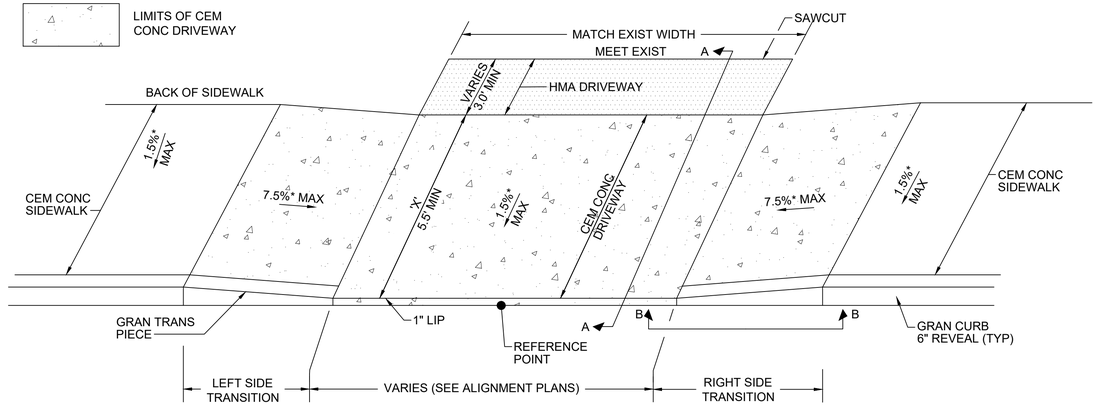
NOTE: THE ROADWAY GUTTER SLOPES MATCH THE DIRECTION OF THE BASELINE.
**RIGHT SIDE TRANSITION HAS A GRASS STRIP.
***ADDITIONAL TRANSITION CURB AT THE BACK OF WALK.



SECTION B-B



SECTION A-A



*TOLERANCE FOR CONSTRUCTION ±0.5%

CEM CONC DRIVEWAY TYPE 2

SCALE: NTS

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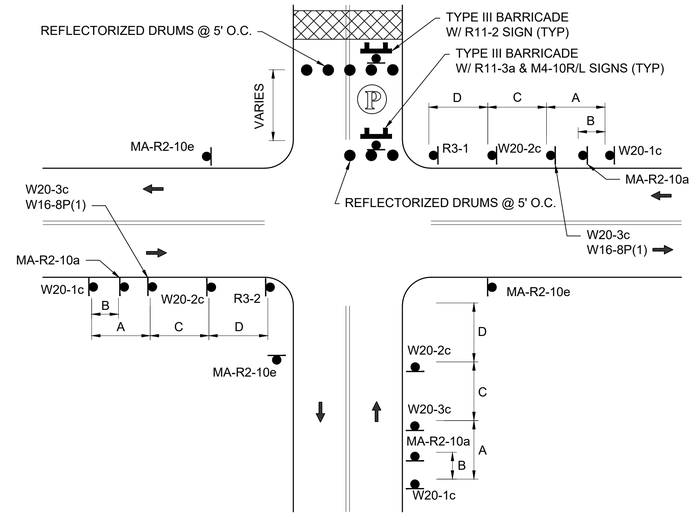
GENERAL NOTES

1. ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. WORK HOURS SHALL BE 7AM TO 3PM UNLESS OTHERWISE APPROVED BY THE TOWN OF WINCHESTER. SWANTON STREET WILL BE COMPLETELY CLOSED AND TRAFFIC DETOURED FOR THE DURATION OF CONSTRUCTION. LOCAL ACCESS WILL BE MAINTAINED AT ALL TIMES.
3. NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY ON STATE RECOGNIZED HOLIDAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS AND PUBLIC RIGHTS-OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN SAFE AND REASONABLE ABUTTER ACCESS. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
6. REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
7. CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
8. THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
9. FOR DROP-OFFS 3" OR LESS WITHIN THE CLEAR ZONE, CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES. FOR DROP-OFFS GREATER THAN 3" BUT NO MORE THAN 36", DETERMINE WHETHER IT IS MORE COST EFFECTIVE TO INSTALL BOTH W8-9 SIGN AND TEMPORARY CHANNELIZATION DEVICES IN ACCORDANCE WITH MASSDOT WORK ZONE SAFETY GUIDE OR W8-9 SIGN WITH A 2H:1V (MIN) WEDGE OR TO REMOVE THE HAZARD. FOR DROP-OFFS 36" OR GREATER USE TEMPORARY BARRIER IN ACCORDANCE WITH MASSDOT WORK ZONE POSITIVE PROTECTION GUIDELINES.
10. CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:
    - 4' IF POSTED SPEED IS LESS THAN 35 MPH
    - 8' IF POSTED SPEED IS 35 MPH
    - 15' IF POSTED SPEED IS 40 MPH
11. ALL TEMP BARRIERS SHALL MEET OR EXCEED MASS TL-2 REQUIREMENTS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
12. 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
13. TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
14. SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
15. SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
16. SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN.
17. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD..
18. CONTRACTOR SHALL SECURE WORK AREAS BY APPROPRIATE MEANS TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
19. THERE IS NO DESIGNATED BICYCLE LANE ON THE ROADWAY WITHIN THE PROJECT LIMITS. BICYCLES ARE EXPECTED TO SHARE THE ROAD WITH GENERAL VEHICULAR TRAFFIC.
20. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND AS COORDINATED WITH THE TOWN OF WINCHESTER FIRE, POLICE AND EMS.



NOTE:

1. REFER TO ADVANCE SIGN SPACING TABLE.

TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS

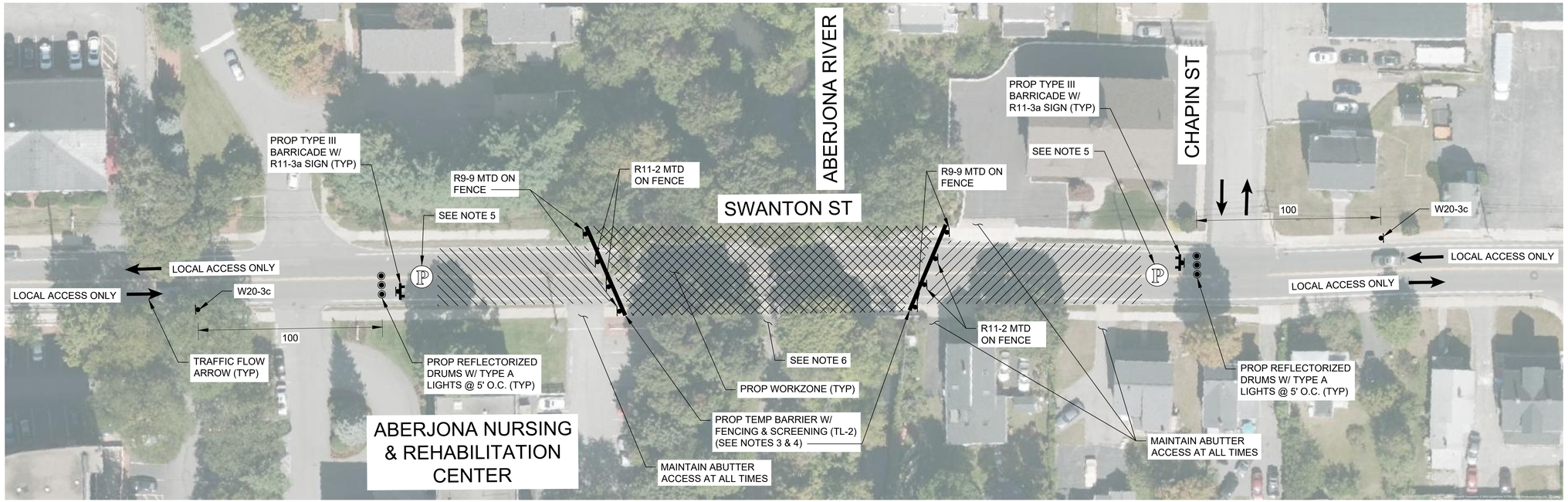
SCALE: NTS

LEGEND	
P	POLICE OFFICER
S	TRAFFIC SIGNAL
●	REFLECTORIZED DRUM
◉	REFLECTORIZED DRUMS WITH TYPE A LIGHTS
	TEMPORARY CONSTRUCTION SIGN
	TYPE III BARRICADE
	TEMPORARY BARRIER
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRANSITION/BUFFER AREAS
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	TRAFFIC FLOW
	PEDESTRIAN ROUTE
NTS	NOT TO SCALE
TTCP	TEMPORARY TRAFFIC CONTROL PLANS

ADVANCE SIGN SPACING				
	DISTANCE BETWEEN SIGNS (FEET)			
ROADWAY	A	B	C	D
MAIN ST, SKILLINGS RD, CROSS ST, WASHINGTON ST	350	150	350	350
ALL OTHER ROADWAYS	100	50	100	100

WINCHESTER
SWANTON STREET
TEMPORARY TRAFFIC CONTROL PLANS
SWANTON STREET CLOSURE PLAN
SHEET 20 OF 42

13387.00_TTCP_CLOSURE.DWG Plotted on 17-Nov-2020 1:18 PM


ABERJONA RIVER
SWANTON ST
CHAPIN ST
PROP TYPE III BARRICADE W/ R11-3a SIGN (TYP)
SEE NOTE 5
R9-9 MTD ON FENCE
R11-2 MTD ON FENCE
LOCAL ACCESS ONLY
W20-3c
100
TRAFFIC FLOW ARROW (TYP)
PROP REFLECTORIZED DRUMS W/ TYPE A LIGHTS @ 5' O.C. (TYP)
SEE NOTE 6
PROP WORKZONE (TYP)
PROP TEMP BARRIER W/ FENCING & SCREENING (TL-2) (SEE NOTES 3 & 4)
MAINTAIN ABUTTER ACCESS AT ALL TIMES
ABERJONA NURSING & REHABILITATION CENTER

NOTES:

1. REFER TO DETOUR PLAN ON SHEET #### FOR ADDITIONAL INFORMATION.
2. REFER TO PEDESTRIAN DETOUR PLAN ON SHEET #### FOR ADDITIONAL INFORMATION.
3. PROP TEMP BARRIER BLUNT ENDS SHALL NOT BE EXPOSED TO TRAFFIC.
4. CONTRACTOR MAY OMIT TEMP BARRIER DURING WORKING HOURS AND REPLACE WITH REFLECTORIZED DRUMS ON THE ROADWAY AND TYPE III BARRICADES ON THE SIDEWALKS. TEMP BARRIER SHALL BE IN PLACE DURING NON-WORKING HOURS.
5. POLICE DETAIL TO ALLOW LOCAL TRAFFIC ACCESS/EGRESS FOR THE DURATION OF THIS SETUP.
6. CONTRACTOR TO COORDINATE WITH THE APPROPRIATE ENTITIES REGARDING ACCESS TO PATHWAY.

0 15 30
Feet

WINCHESTER
SWANTON STREET
TEMPORARY TRAFFIC CONTROL PLANS
DETOUR PLAN
SHEET 21 OF 42

13387.00_TTCP.DWG Plotted on 17-Nov-2020 1:20 PM

WOBURN
WINCHESTER

38

CROSS ST

LORING AVE

HILL ST

WHITE ST

MAIN ST

GLENWOOD AVE

PCMS #1 (LOCATED IN GRASS STRIP ON RIGHT APPROX. 150' NORTH OF GLENWOOD AVE)

PROP WORKZONE (TYP)

ABERJONA RIVER

MBTA LOWELL/
HAVERHILL LINE

CROSS ST

PCMS #3 (LOCATED IN RIGHT SHOULDER APPROX. 50' NORTH OF BATES RD)

BATES RD

CHAPIN ST

SWANTON ST

FLORENCE ST

CHESTER ST

WASHINGTON ST

HIGHLAND AVE

REFER TO TYPICAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET ####

REFER TO SWANTON STREET CLOSURE PLAN ON SHEET ####

CLARK ST

PCMS #2 (LOCATED IN GRASS PATCH ON RIGHT APPROX. 425' SOUTH OF CLARK ST)

REFER TO SWANTON STREET CLOSURE PLAN ~~ON SHEET~~ ####

MAIN ST

SPRUCE ST

HOLLAND ST

REFER TO TYPICAL ROAD CLOSURE WITH LOCAL ACCESS ~~DETAIL ON SHEET~~ ####

REFER TO TYPICAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET ####

PCMS #4 (URBAN SIZED) (LOCATED IN GRASS STRIP ON RIGHT APPROX. 40' SOUTH OF HANCOCK ST)

HANCOCK ST

SKILLINGS RD

PALMER ST

38

0 125 250
Feet

PCMS #1 - #4 MESSAGE TEXT

14 DAYS PRIOR TO START OF SWANTON ST CLOSURE	SWANTON CLOSURE BEGINS	DAY DATE TIME
DURING SWANTON ST CLOSURE	SWANTON STREET CLOSED	FOLLOW DETOUR

PCMS NOTES:

1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF WINCHESTER. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
2. DATE AND TIMES ON PCMS MESSAGING SHALL BE COORDINATED WITH THE TOWN OF WINCHESTER.
3. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 14 DAYS PRIOR TO START OF CONSTRUCTION OR AS DIRECTED BY THE TOWN OF WINCHESTER.
4. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

NOTE:

1. DETOUR SIGNAGE TO BE INCLUDED IN NEXT SUBMISSION.

LEGEND	
	WASHINGTON ST NORTHBOUND TO SWANTON ST WESTBOUND DETOUR FLOW ARROW
	WASHINGTON ST SOUTHBOUND TO SWANTON ST WESTBOUND DETOUR FLOW ARROW
	MAIN ST NORTHBOUND TO SWANTON ST EASTBOUND DETOUR FLOW ARROW
	MAIN ST SOUTHBOUND TO SWANTON ST EASTBOUND DETOUR FLOW ARROW
S	TRAFFIC SIGNAL
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	WORK AREA (LOCAL ACCESS ONLY)

WINCHESTER
SWANTON STREET
TEMPORARY TRAFFIC CONTROL PLANS
PEDESTRIAN DETOUR PLAN
SHEET 22 OF 42

13387.00_TTCP_PED_DETOUR.DWG Plotted on 17-Nov-2020 1:20 PM

HILL ST
WHITE ST
LORING AVE
ABERJONA RIVER
CHAPIN ST
SWANTON ST
FLORENCE ST
CHESTER ST
WASHINGTON ST
CEDAR ST
SPRUCE ST
MBTA LOWELL/ HAVERHILL LINE
HOLLAND ST
OAK ST
MAIN ST
CLARK ST
SKILLINGS RD
WINCHESTER HIGH SCHOOL

PROP TYPE III BARRICADE W/ R9-11R SIGN
PROP TYPE III BARRICADE W/ R9-11L SIGN
M4-9bR
M4-9bL
M4-9bV
M4-9bSR
M4-9bSL
REFER TO SWANTON STREET CLOSURE PLAN ON SHEET 20 FOR SIDEWALK CLOSURE INFORMATION
38

LEGEND

– –	PEDESTRIAN DETOUR ROUTE
S	TRAFFIC SIGNAL
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	WORK AREA (LOCAL ACCESS ONLY)

0 75 150
Feet

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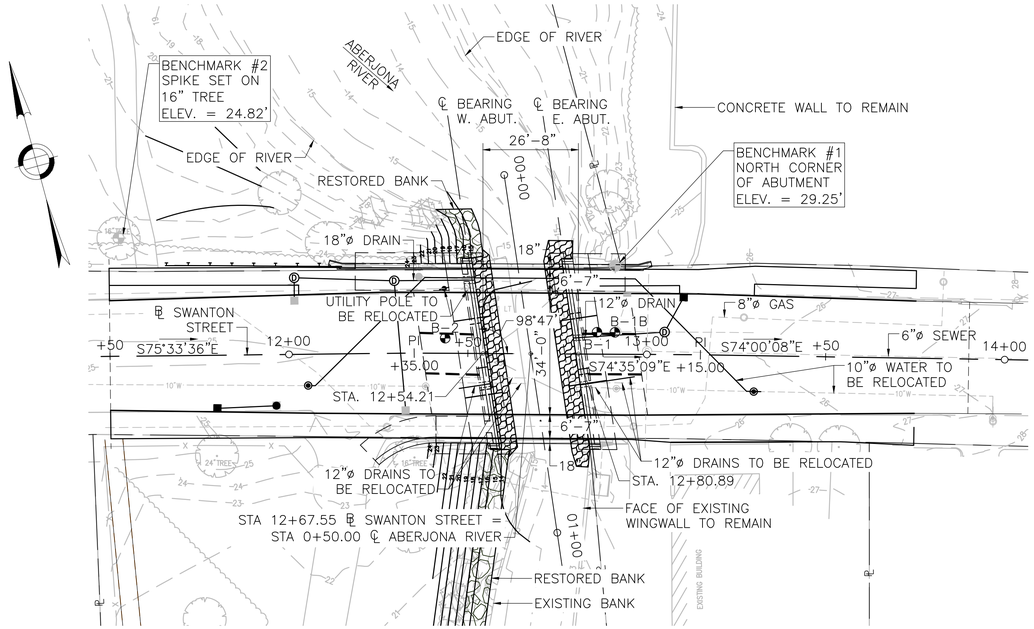
TEMPORARY TRAFFIC CONTROL SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR		
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND	BORDER
MA-R2-10a	48"	36"	WORK ZONE / SPEEDING FINES DOUBLED	AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE / WHITE	BLACK	BLACK
MA-R2-10e	36"	48"	END ROAD WORK / DOUBLE FINES END				FLUOR-ESCENT ORANGE / WHITE	BLACK	BLACK
R3-1	24"	24"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			WHITE	RED/ BLACK	BLACK
R3-2	24"	24"					WHITE	RED/ BLACK	BLACK
R9-9	24"	12"	SIDEWALK CLOSED				WHITE	BLACK	BLACK
R9-11L	24"	18"	SIDEWALK CLOSED AHEAD ← CROSS HERE				WHITE	BLACK	BLACK
R9-11R	24"	18"	SIDEWALK CLOSED AHEAD → CROSS HERE				WHITE	BLACK	BLACK
R11-2	48"	30"	ROAD CLOSED				WHITE	BLACK	BLACK
R11-3a	60"	30"	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY				WHITE	BLACK	BLACK
W16-8P	30"	12"	SWANTON ST				FLUOR-ESCENT ORANGE	BLACK	BLACK
W20-1c	36"	36"	ROAD WORK AHEAD				FLUOR-ESCENT ORANGE	BLACK	BLACK
W20-2c	36"	36"	DETOUR AHEAD				FLUOR-ESCENT ORANGE	BLACK	BLACK
W20-3c	36"	36"	ROAD CLOSED AHEAD				FLUOR-ESCENT ORANGE	BLACK	BLACK

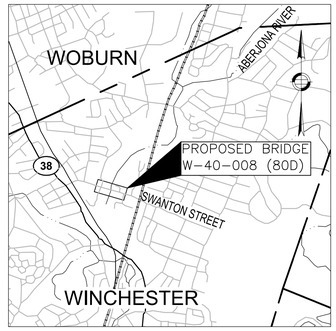
TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (CONTINUED)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR		
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND	BORDER
M4-9bL	30"	24"	DETOUR ←	SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-9bR	30"	24"	DETOUR →				FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-9bSL	30"	24"	DETOUR ↖				FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-9bSR	30"	24"	DETOUR ↗				FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-9bV	30"	24"	DETOUR ↑				FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-10L	48"	18"	← DETOUR				FLUOR-ESCENT ORANGE	BLACK	- - -
M4-10R	48"	18"	DETOUR →				FLUOR-ESCENT ORANGE	BLACK	- - -

NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MassDOT STANDARD SIGNS BOOK, AS AMENDED.
2. ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.



KEY PLAN
SCALE: 1" = 20'



LOCUS
SCALE: 1" = 2000'

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	1	19
PROJECT FILE NO. N/A			

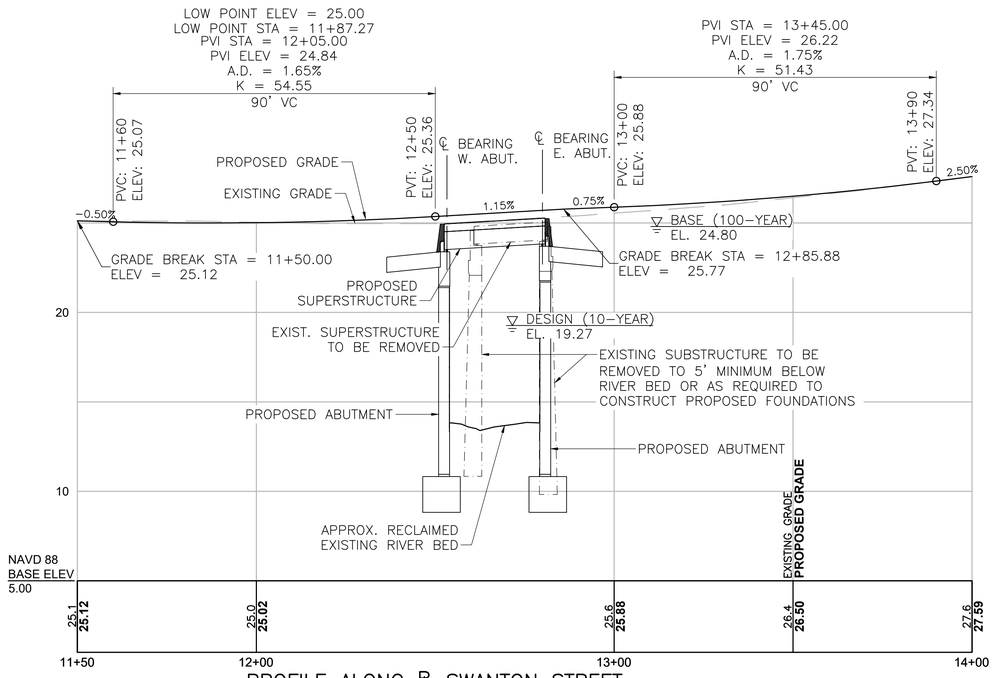
KEY PLAN, PROFILE
AND INDEX

ESTIMATED QUANTITIES
NOT GUARANTEED

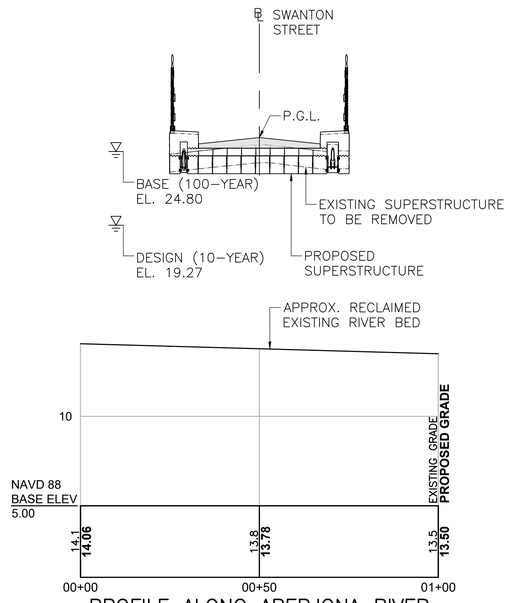
ITEM NO.	DESCRIPTION	QUANTITY	UNITS
115.1	DEMOLITION OF BRIDGE NO. W-40-008 (80D)	1	LS
140.	BRIDGE EXCAVATION	864	CY
144.	CLASS B ROCK EXCAVATION	87	CY
151.1	GRAVEL BORROW FOR BRIDGE FOUNDATION	86	CY
151.2	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	475	CY
153.1	CONTROLLED DENSITY FILL – NON-EXCAVATABLE	25	CY
952.	TEMPORARY STEEL SHEETING	1	LS
991.1	CONTROL OF WATER – STRUCTURE NO. W-40-008 (80D)	1	LS
995.01	BRIDGE STRUCTURE, BRIDGE NO. W-40-008 (80D)	1	LS

DRAWING INDEX

SHEET	TITLE
1	KEY PLAN, PROFILE AND INDEX
2	GENERAL NOTES
3	BORING LOGS (1 OF 2)
4	BORING LOGS (2 OF 2)
5	GENERAL PLAN AND ELEVATION
7	WEST ABUTMENT PLAN AND ELEVATION
8	EAST ABUTMENT PLAN AND ELEVATION
6	FOUNDATION PLAN
9	ABUTMENT DETAILS
10	WINGWALL DETAILS (1 OF 3)
11	WINGWALL DETAILS (2 OF 3)
12	WINGWALL DETAILS (3 OF 3)
13	BEAM DETAILS (1 OF 2)
14	BEAM DETAILS (2 OF 2)
15	MISCELLANEOUS DETAILS
17	TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION
18	MODIFIED S3-TL4 RAILING DETAILS
19	TOLERANCES



PROFILE ALONG ℄ SWANTON STREET
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: ¼" = 1'-0"



PROFILE ALONG ABERJONA RIVER
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: ¼" = 1'-0"

MONTH DD, YYYY	ISSUED FOR BID

PROPOSED BRIDGE
WINCHESTER
SWANTON STREET
OVER ABERJONA RIVER
TOWN OF WINCHESTER
71 MOUNT VERNON STREET
WINCHESTER, MA 01890

Vanasse Hangen Brustlin, Inc.
101 Walnut St, P.O. Box 9151
Watertown, MA 02472
617.924.1770 FAX 617.924.2286

TITLE: CHIEF ENGINEER

BR(W40008)(KP_PROF_INDEX).DWG Plotted on 17-Nov-2020 4:10 PM
Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	2	19
PROJECT FILE NO. N/A			

GENERAL NOTES

GENERAL NOTES

DESIGN:

IN ACCORDANCE WITH:

THE 2017 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS WITH CURRENT INTERIM SPECIFICATIONS FOR HL-93 LOADING.

THE 2013 MASSACHUSETTS DEPARTMENT OF TRANSPORTATION LRFD BRIDGE MANUAL.

THE 2011 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN.

MASSDOT BENCH MARK:

BENCHMARK #1: NORTH CORNER OF EAST ABUTMENT
N2993237.51, E754123.75, EL. 29.25'

BENCHMARK #2: SPIKE SET ON 16" TREE
N2993281.06, E753991.72, EL. 24.82'

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD88) OF 1988.

DATE:
TO BE PLACED ON THE INSIDE FACE OF THE NORTHEAST GUARDRAIL TRANSITION. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST HIGHWAY GUARDRAIL TRANSITION IS CONSTRUCTED.

SURVEY:

TOPOGRAPHICAL INFORMATION FROM A SURVEY BY VANASSE HANGEN BRUSTLIN, INC., WATERTOWN, MASSACHUSETTS BETWEEN THE DATES OF FEBRUARY AND MAY, 2016.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT THE CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS
1. NONE	16"	19"	23"
2. 12" OF CONCRETE BELOW BAR	20"	25"	30"
3. EPOXY COATED BARS, COVER $<3d_b$, OR CLEAR SPACING $< 6d_b$	23"	29"	34"
4. COATED BARS, ALL OTHER CASES	18"	23"	27"
5. CONDITION 2. AND 3.	26"	32"	39"
6. CONDITION 2. AND 4.	24"	30"	36"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

GEOTECHNICAL REPORT:

REFER TO GEOTECHNICAL REPORT, DATED MARCH 31, 2016 PREPARED BY LAHLAF GEOTECHNICAL CONSULTING, INC.

CONSTRUCTION REQUIREMENTS AND PROCEDURES:

THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY AND SAFE PERFORMANCE OF ALL STRUCTURAL ELEMENTS DURING DEMOLITION AND CONSTRUCTION. REFER TO APPROVED DEMOLITION/ERECTION PLANS.

EXISTING CONDITIONS:

THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENTS AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE HAS MADE THE REQUIRED MEASUREMENTS AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

UTILITIES:

THE EXISTING UTILITIES HAVE BEEN DISPLAYED FROM THE BEST AVAILABLE INFORMATION. THE EXACT LOCATIONS AND DEPTHS ARE UNKNOWN AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION FROM DAMAGE FOR ALL THE EXISTING UTILITIES.

CONSTRUCTION JOINTS:

CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

CONCRETE:

PRECAST ABUTMENTS BELOW BACKWALL, WINGWALLS BELOW COPING, FOOTINGS, CURTAIN WALLS AND APPROACH SLABS: 4000 PSI, 1 ½ IN., 565 CEMENT CONCRETE.

PRECAST BACKWALLS: 4000 PSI, ¾ IN., 610 CEMENT CONCRETE.

CAST-IN-PLACE DECK: 4000 PSI, ¾ IN., 585 HP CEMENT CONCRETE.

SIDEWALKS, CAST-IN-PLACE MOMENT SLAB AND PRECAST HIGHWAY GUARDRAIL TRANSITIONS: 5000 PSI, ¾ IN., 685 HP CEMENT CONCRETE.

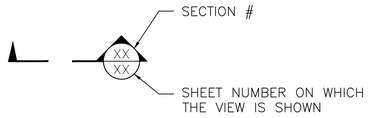
CMP ABUTMENT VOID FILL, AND CAST-IN-PLACE WINGWALL COPING: 4000 PSI, ¾ IN., 610 CEMENT CONCRETE.

PRECAST DECK BEAMS SHALL HAVE A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 6500 PSI AND A CONCRETE COMPRESSIVE STRENGTH AT RELEASE OF 4500 PSI.

PRESTRESSING STRANDS:

PRESTRESSING STRANDS SHALL BE LOW RELAXATION, 0.6 IN. DIAMETER, NOT EPOXY COATED AND MEET THE REQUIREMENTS OF AASHTO M203. BEAMS SHALL BE FABRICATED WITH THE PRESTRESSING STRAND LAYOUT AS SHOWN ON THE PLANS.

SECTION MARK:



HYDRAULIC DESIGN DATA		
DRAINAGE AREA:	13.5	SQ. MILES
DESIGN FLOOD DISCHARGE:	586	C.F.S.
DESIGN FLOOD FREQUENCY	10	YEARS
DESIGN FLOOD VELOCITY:	5.02	F.P.S.
DESIGN FLOOD ELEVATION:	19.27	FEET, NAVD
BASE (100-YEAR) FLOOD DATA		
BASE FLOOD DISCHARGE:	1,213	C.F.S.
BASE FLOOD ELEVATION:	23.06	FEET, NAVD
DESIGN AND CHECK SCOUR DATA		
DESIGN SCOUR FLOOD EVENT:	25	YEARS
DESIGN FLOOD ABUTMENT SCOUR DEPTH:	4.49	FEET
CHECK SCOUR FLOOD EVENT:	50	YEARS
CHECK FLOOD ABUTMENT SCOUR DEPTH:	5.71	FEET
FLOOD OF RECORD		
DISCHARGE:	N.A.	C.F.S.
FREQUENCY (IF KNOWN):	N.A.	YEARS
MAXIMUM ELEVATION:	N.A.	FEET, NAVD
DATE:	MARCH, 2001	MONTH, YEAR
HISTORY OF ICE FLOES:	NONE	N.A.
EVIDENCE OF SCOUR AND EROSION:	NONE	N.A.

SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	1000 YEARS
DESIGN SPECTRA	
As	0.195g
SDs	0.392g
SD1	0.139g
SITE CLASS	E
SEISMIC DESIGN CATEGORY (SDC)	A

MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(GENERAL NOTES).DWG Plotted on 16-Nov-2020 5:06 PM
Final Structural Submittal (SF) November-2020

BORING B–1

STATION: 12+85.16
OFFSET: 6.06' LEFT
N 2993220.87 E 754113.98
GROUND ELEVATION: 25.3±

BORING B–1B

STATION: 12+90.15
OFFSET: 6.06' LEFT
N 2993219.55 E 754118.80
GROUND ELEVATION: 25.3±

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	3	19
PROJECT FILE NO. N/A			

BORING LOGS (1 OF 2)

LGCI Lahlaf Geotechnical Consulting, Inc.

BORING LOG — **Boring B-1** **Page 1 of 2**

Project:	**Proposed Swanton Street Bridge, Winchester, MA**		
Client:	**Vanasse Hangen Brustlin, Inc.**		LGCI Project No.: 1601
Drilling Subcontractor:	Northern Drill Service	Date Started:	03/09/2016
Drilling Foreman:	Tim Tucker	Date Completed:	03/09/2016
LGCI Engineer:	Todd Dwyer	Location:	Eastern side of bridge
Ground Surface El:	~98' (see remark 1)	Total Depth:	36 feet
Groundwater Depth:	~8' based on sample moisture 10.4' at the end of drilling	Drill Rig Type: Drilling Method:	Mobile B-48 Track Mount 4" casing, drive and wash
Hammer Weight:	140 lbs	Split Spoon Diameter:	ID - 1.375", OD - 2"
Hammer Type:	Automatic	Rock Core Barrel Size:	N/A
Drop:	30 inches		

Depth Scale	Depth (ft)	Sample No	Blows per 6 inches 0-6	6-12	12-18	18-24	Pen (in)	Rec (in)	Remarks	Strata	Sample Description
									2		0-1' - Asphalt
											1'-2' - Concrete approach slab
	2-4	S1	8	5	4	3	24	1			S1: Poorly Graded GRAVEL (GP), fine to coarse, ~5% coarse sand, brown, moist
5ft	4-6	S2	WOH	WOH	WOH	WOH	24	2			S2-Silty SAND (SM), fine to medium, 20-25% non-plastic fines, trace organics, dark brown, moist
	6-8	S3	WOH	3	1	2	24	6			S3 - Silty SAND (SM), fine to medium, 15-20% fines, ~5% fine gravel, dark brown to brown, moist
	8-10	S4	3	WOH	1	1	24	5			S4 - Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, 5-10% fine gravel, brown, wet
10ft											
	10-12	S5	13	9	3	3	24	12			~~S5 - Similar to S4, 10-15% fines~~
	12-14	S6	2	3	WOH	1	24	13			S6 - Similar to S4, 10-15% fines
15ft	14-16	S7	3	2	3	4	24	14			S7 - Poorly Graded SAND (SP) fine to medium, 0-5% fines, ~5% fine gravel, light brown, wet
20ft	19-21	S8	2	2	1	1	24	20			S8: Poorly Graded SAND (SP), fine, trace fines, light brown, wet
	24-26	S9	2	1	2	6	24	18			S9: Similar to S8, with 2 to 3 inch thick layers of Silty SAND (SM) fine, 25-30% fines, light brown, wet
30ft	29-31	S10	8	6	9	11	24	15			S10: Poorly Graded SAND with Silt (SP-SM), fine to medium, 10-15% fines, occasional silt seams up to 1" thick, orange brown, wet
	34-36	S11	4	4	6	7	24	12			S11: Similar to S10
40ft											

Fill: 0'–14'
Sand: 14'–~36'
EL. 14.9 ▽
BOT. OF FOOTING EL. 9.0

Bottom of boring at 36 feet. Backfilled borehole with cuttings, topped with cold patch asphalt.

LGCI Lahlaf Geotechnical Consulting, Inc.

BORING LOG — **Boring B-1B** **Page 1 of 2**

Project:	**Proposed Swanton Street Bridge, Winchester, MA**		
Client:	**Vanasse Hangen Brustlin, Inc.**		LGCI Project No.: 1601
Drilling Subcontractor:	Northern Drill Service	Date Started:	03/09/2016
Drilling Foreman:	Tim Tucker	Date Completed:	03/09/2016
LGCI Engineer:	Todd Dwyer	Location:	Eastern side of bridge, 5 ft east of B-1.
Ground Surface El:	~98' (see remark 1)	Total Depth:	36 ft
Groundwater Depth:	10.9' at end of drilling see remark 2	Drill Rig Type: Drilling Method:	Mobile B-48 Track Mount 4" casing, drive and wash
Hammer Weight:	140 lbs	Split Spoon Diameter:	ID - 1.375", OD - 2"
Hammer Type:	Automatic	Rock Core Barrel Size:	N/A
Drop:	30 inches		

Depth Scale	Depth (ft)	Sample No	Blows per 6 inches 0-6	6-12	12-18	18-24	Pen (in)	Rec (in)	Remarks	Strata	Sample Description
									1		0-1' - Asphalt
											1'-2' - Concrete approach slab
5ft											
10ft											
15ft	14-16	S1	2	3	2	4	24	12			S1: Poorly Graded SAND (SP), fine to medium, trace coarse, ~~trace fines, trace fine gravel, light brown, wet~~
	16-18	S2	5	4	5	5	24	0.5			S2: Similar to S1
20ft	19-21	S3	WOH	WOH	1	WOH	24	17			S3 - Similar to S1
	21-23	S4	5	6	7	6	24	8			S4- Similar to S1
	24-26	S5	2	2	4	8	24	13			S5 - Silty SAND (SM), fine, 25-30% fines, light brown, wet
	26-28	S6	4	6	7	20	24	18			S6: Similar to S5, orange brown
30ft	29-31	S7	16	20	17	15	24	0			S7 - No recovery
	31-33	S8	15	12	11	13	24	18			S8 - Silty SAND (SM), fine to medium, ~15% non plastic fines, orange brown, wet
	34-36	S9	5	6	8	10	24	10			S9 - Poorly Graded SAND with Silt (SP-SM), fine to medium, ~5% fines, orange brown to gray, wet
40ft											

Fill: 0'–14'
Sand: 14'–~36'
EL. 14.4 ▽
BOT. OF FOOTING EL. 9.0

Bottom of boring at 36 feet. Backfilled borehole with cuttings, topped with cold patch asphalt.

Remarks:
1. Ground surface elevation interpolated to the nearest 1/2 foot from construction centerline shown on sheet 2 of 12 of the plan set titled: "Proposed Bridge, Winchester, Swanton Street over Aberjona River," prepared by MassDOT for Bridge No. W-40-8. The drawing was provided to LGCI by VH via email.
2. Advanced through asphalt and approach slab by spinning 5-inch casing, then set 4-inch casing.

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE KEY PLAN THUS: ⊕ B–1
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1⅜" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. ALL BORINGS WERE MADE BETWEEN FEBRUARY AND MARCH OF 2016.
6. BORINGS WERE MADE BY LGCI, 23 MCGINNESS WAY, BILLERICA, MA 01821
7. THE VERTICAL DATUM FOR ORTHOMETRIC HEIGHTS USED FOR THE EXISTING BRIDGE, AND THE BASICS OF THE LGCI GEOTECHNICAL ELEVATIONS, IS UNKNOWN. THE PROPOSED SURVEY IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(BORINGS).DWG Plotted on 16-Nov-2020 5:08 PM
Final Structural Submittal (SF) November-2020

BORING B–2

STATION: 12+42.73
OFFSET: 4.25' LEFT
N 2993230.28 E 754072.58
GROUND ELEVATION: 24.9±

LGCI Lahlaf Geotechnical Consulting, Inc.

BORING LOG — **Boring B-2 Page 1 of 2**

Project: **Proposed Swanton Street Bridge, Winchester, MA**
Client: **Vanasse Hangen Brustlin, Inc.** — LGCI Project No.: 1601

Drilling Subcontractor:	Northern Drill Service	Date Started:	02/01/2016
Drilling Foreman:	Carl Beirholm	Date Completed:	02/02/2016
LGCI Engineer:	Alan Smith	Location:	Western side of bridge
Ground Surface El:	~97.5' (see remark 1)	Total Depth:	50 ft
Groundwater Depth:	9' at the end of drilling	Drill Rig Type:	Mobile B-59 truck
		Drilling Method:	4" casing, drive and wash
Hammer Weight:	140 lbs	Split Spoon Diameter:	ID - 1.375", OD - 2"
Hammer Type:	Automatic	Rock Core Barrel Size:	N/A
Drop:	30 inches		

Depth Scale	Sample Depth (ft)	Sample No	Blows per 6 inches 0-6	6-12	12-18	18-24	Pen (in)	Rec (in)	Remarks	Strata	Sample Description
	1-3	S1	12	15	18	16	24	14		Fill	8" of asphalt S1: Poorly Graded SAND with Silt and Gravel (SP-SM), fine to coarse, 10-15% fines, 15-20% fine to coarse gravel, brown, moist
	3-5	S2	4	14	12	12	24	16			S2-Top 12": Silty SAND (SM), fine to medium, 15-20% fines, dark brown, moist Bottom 4": Poorly Graded SAND (SP), fine to medium, 0-5% fines, light brown, moist
5ft	5-7	S3	9	9	5	4	24	0			S3: No recovery, pushed 3" spoon, 12" of Well-Graded SAND with Silt and Gravel (SW-SM), fine to coarse, 5-10% fines, 15-20% fine to coarse gravel, brown, moist
	7-9	S4	6	3	2	3	24	12		7'	S4: Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, light brown, moist — EL. 15.9
10ft	9-11	S5	2	3	3	5	24	8			S5: Well-Graded SAND with Silt (SW-SM), fine to coarse, 5-10% fines, ~10% fine gravel, brown, wet
15ft	14-16	S6	4	4	4	5	24	9	2	Sand	S6: Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, brown, wet — BOT. OF FOOTING EL. 9.0
20ft	19-21	S7	3	5	6	7	24	13			S7: Well-Graded SAND with Silt (SW-SM), fine to coarse, 5-10% fines, brown ,wet
	24-26	S8	5	8	8	8	24	12			S8: Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, gray, wet

30 / 20 / 10 / 0

Remarks:
1. Ground surface elevation interpolated to the nearest 1/2 foot from construction centerline shown on sheet 2 of 12 of the plan set titled: "Proposed Bridge, Winchester, Swanton Street over Aberjona River," prepared by MassDOT for Bridge No. W-40-8. The drawing was provided to LGCI by VH via email.
2. Poured water into casing while drawing out the rods to maintain positive head. Casing drove easy to 24 ft, then started slowing down.

BORING B–2 (CONTINUED)

LGCI Lahlaf Geotechnical Consulting, Inc.

BORING LOG — **Boring B-2 Page 2 of 2**

Project: **Proposed Swanton Street Bridge, Winchester, MA**
Client: **Vanasse Hangen Brustlin, Inc.** — LGCI Project No.: 1601

Depth Scale	Sample Depth (ft)	Sample No	Blows per 6 inches 0-6	6-12	12-18	18-24	Pen (in)	Rec (in)	Remarks	Strata	Sample Description
30ft	29-31	S9	4	8	9	9	24	12		Sand	S9: Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, gray, wet
	34-36	S10	4	8	8	10	24	12			S10: Similar to S9
40ft	39-41	S11	3	6	6	6	24	12			S11: Similar to S9
	44-46	S12	3	5	6	6	24	15			S12: Similar to S9 Drove spoon to 50 ft, seemed to be no change in blow count Soil in spoon Similar to S9
50ft											Bottom of boring at 50 feet. Backfilled borehole with cuttings, topped with cold patch asphalt.
60ft											

Remarks:

NOTE:

FOR BORING NOTES SEE SHEET 3 OF 19.

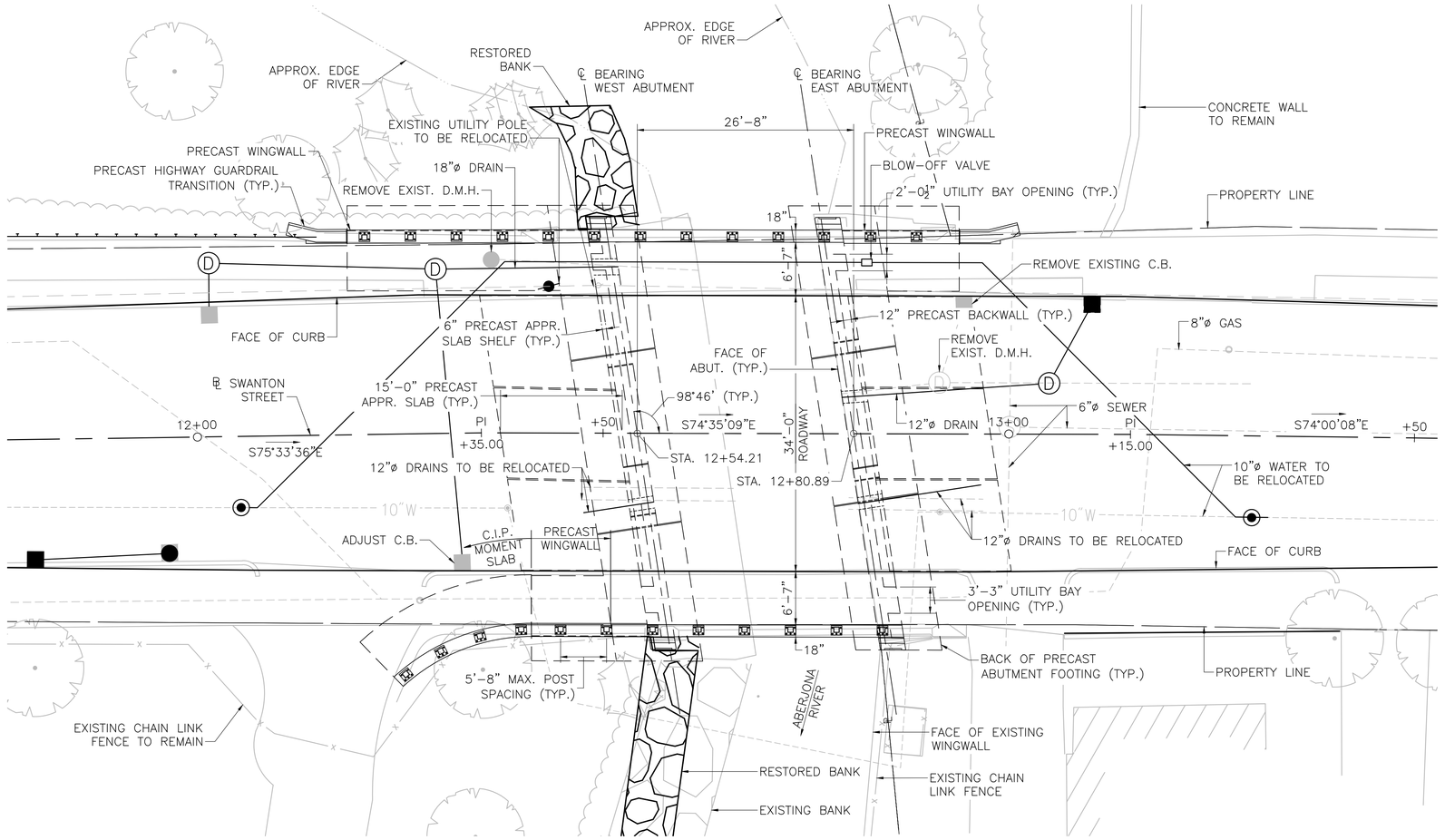
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(BORINGS).DWG Plotted on 16-Nov-2020 5:08 PM
Final Structural Submittal (SF) November-2020

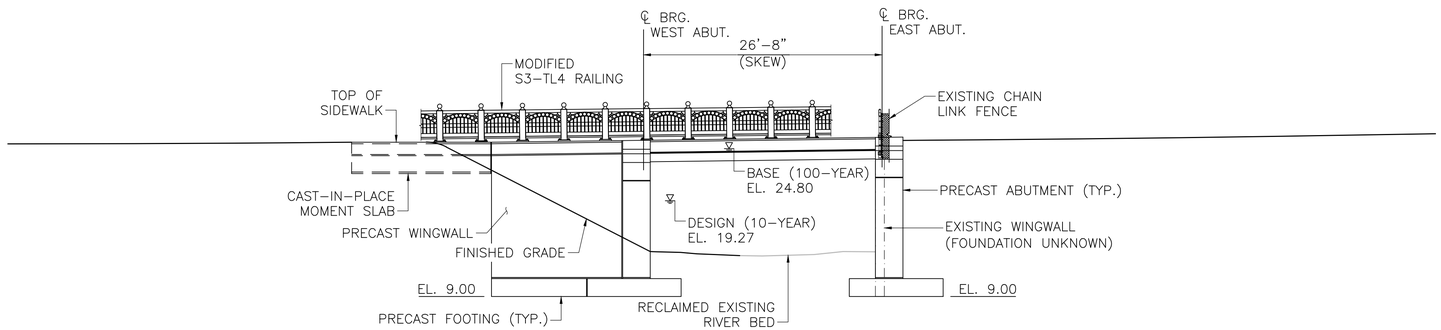
WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	7	19
PROJECT FILE NO. N/A			

GENERAL PLAN AND ELEVATION



GENERAL PLAN
SCALE: ⅛" = 1'–0"



ELEVATION
SCALE: ⅛" = 1'–0"

NOTES

1. LAYOUT OF PRECAST ABUTMENTS, WINGWALLS, AND STRIP FOOTINGS ARE SCHEMATIC. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO THE ENGINEER FOR APPROVAL AS PART OF THE FABRICATION DRAWINGS SUBMITTAL.
2. ABUTMENT AND WINGWALL JOINTS SHALL AVOID JOINTS OF STRIP FOOTINGS OR EDGE OF STRIP FOOTING GAP.
3. SEE SHEETS 1 AND 15 OF 19 FOR RIPRAP AND SCOUR PROTECTION DETAILS.
4. SEE HIGHWAY CONSTRUCTION PLANS SHEET 5 OF 42 FOR DRAINAGE STRUCTURE DATA AND ADDITIONAL UTILITY DETAILS.

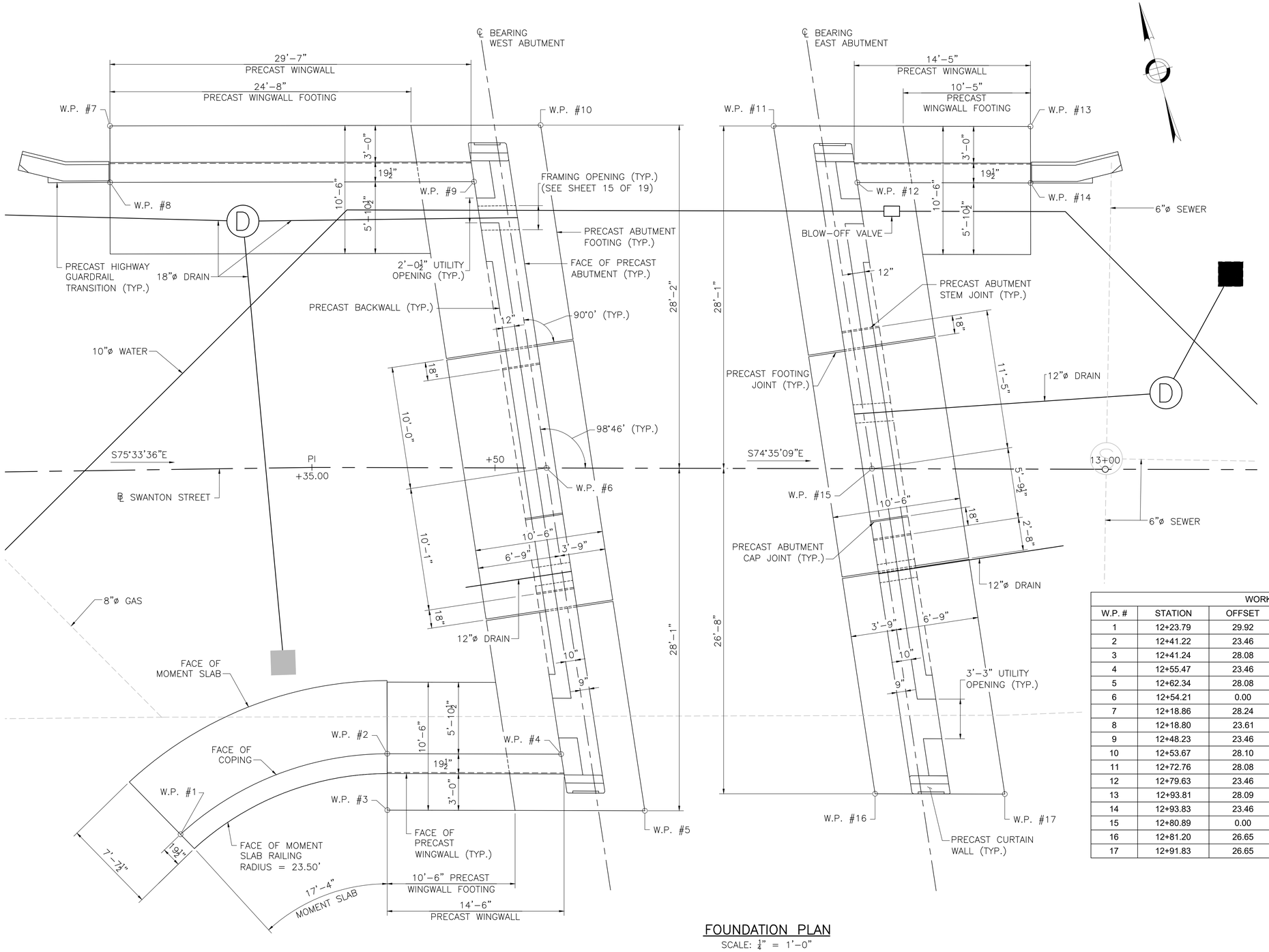
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(GEN PLAN_ELEV).DWG Plotted on 17-Nov-2020 4:01 PM
Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	6	19
PROJECT FILE NO. N/A			

FOUNDATION PLAN



FOUNDATION PLAN
SCALE: ¼" = 1'-0"

WORKING POINTS				
W.P. #	STATION	OFFSET	NORTHING	EASTING
1	12+23.79	29.92	2993202.3677	754044.8385
2	12+41.22	23.46	2993204.2768	754062.9140
3	12+41.24	28.08	2993199.8131	754061.7032
4	12+55.47	23.46	2993200.4893	745076.6515
5	12+62.34	28.08	2993194.2048	754082.0445
6	12+54.21	0.00	2993223.4389	754081.6719
7	12+18.86	28.24	2993259.9148	754054.5624
8	12+18.80	23.61	2993255.4511	754053.3516
9	12+48.23	23.46	2993247.6421	754082.1401
10	12+53.67	28.10	2993250.6770	754088.6181
11	12+72.76	28.08	2993245.5767	754107.0145
12	12+79.63	23.46	2993239.2981	754112.4081
13	12+93.81	28.09	2993239.9907	754127.3081
14	12+93.83	23.46	2993235.5244	754126.0967
15	12+80.89	0.00	2993216.3487	754107.3877
16	12+81.20	26.65	2993190.5751	754100.6123
17	12+91.83	26.65	2993187.7513	754110.8544

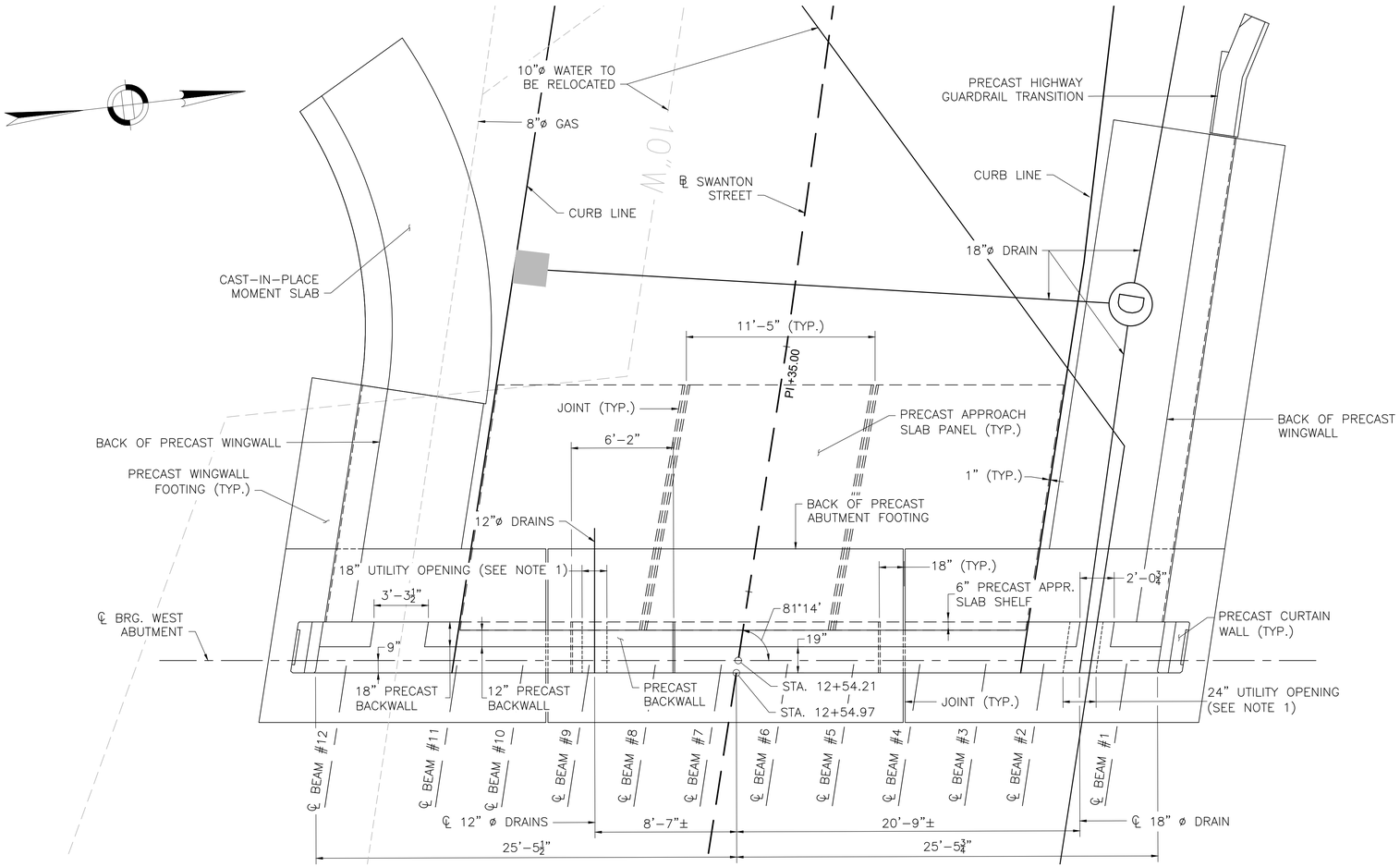
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)FND PLAN).DWG Plotted on 17-Nov-2020 4:01 PM
Final Structural Submittal (SF) November-2020

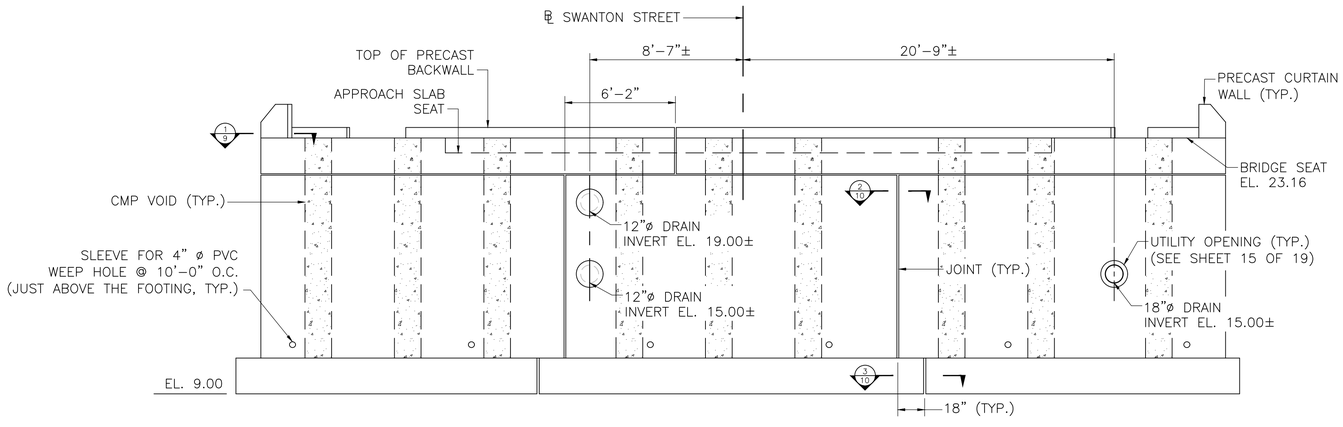
WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	7	19
PROJECT FILE NO. N/A			

WEST ABUTMENT PLAN
AND ELEVATION



WEST ABUTMENT PLAN
SCALE: ¼" = 1'-0"


℄ SWANTON STREET
8'-7"±
20'-9"±
TOP OF PRECAST BACKWALL
APPROACH SLAB SEAT
6'-2"
PRECAST CURTAIN WALL (TYP.)
BRIDGE SEAT EL. 23.16
CMP VOID (TYP.)
12"ø DRAIN INVERT EL. 19.00±
12"ø DRAIN INVERT EL. 15.00±
JOINT (TYP.)
UTILITY OPENING (TYP.) (SEE SHEET 15 OF 19)
SLEEVE FOR 4" ø PVC WEEP HOLE @ 10'-0" O.C. (JUST ABOVE THE FOOTING, TYP.)
18"ø DRAIN INVERT EL. 15.00±
EL. 9.00
18" (TYP.)

WEST ABUTMENT ELEVATION
SCALE: ¼" = 1'-0"

NOTES:

1. EXISTING DRAINS AND UTILITY OPENINGS IN ABUTMENT STEMS SHALL BE SET PERPENDICULAR TO THE FACE OF THE ABUTMENT. FOR SITUATIONS WHERE, DUE TO SKEW, A SQUARE OPENING WILL NOT FIT, THE OPENING MAY BE ANGLED TO A DEGREE APPROVED BY THE ENGINEER.
2. JOINTS SHALL BE SET PERPENDICULAR TO THE CENTERLINE OF BEARINGS.

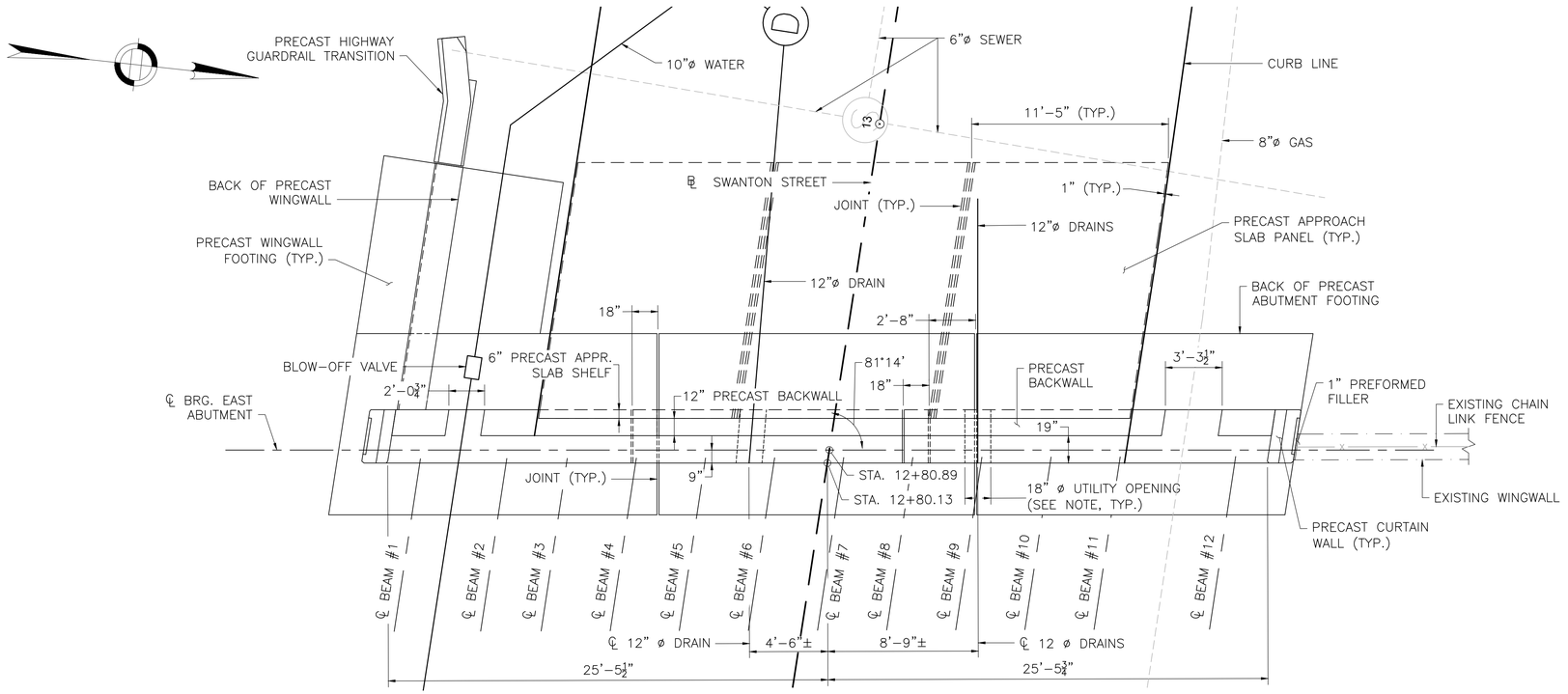
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(ABUT DETAILS).DWG Plotted on 16-Nov-2020 5:15 PM
Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

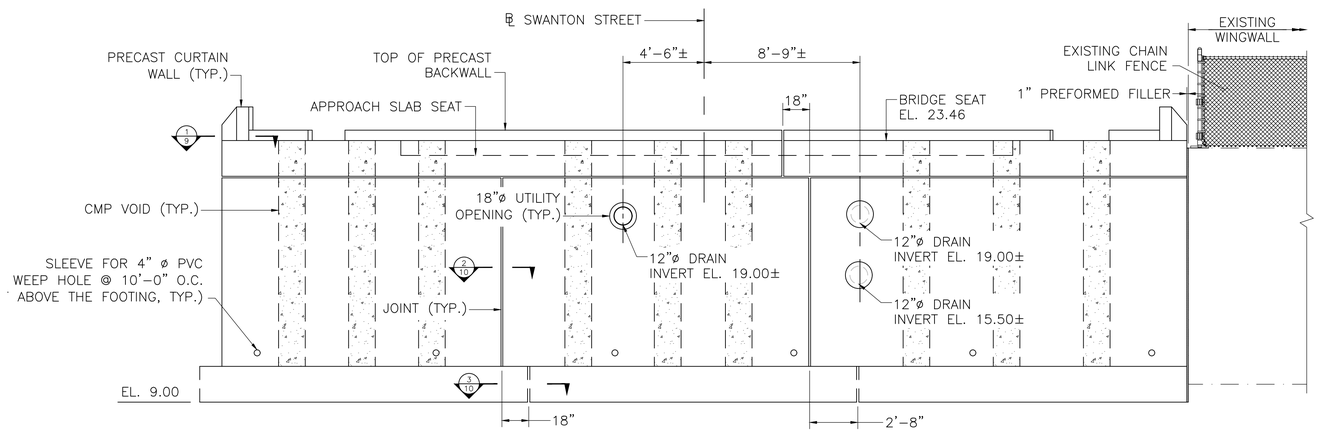
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	8	19
PROJECT FILE NO. N/A			

EAST ABUTMENT PLAN
AND ELEVATION



EAST ABUTMENT PLAN
SCALE: ¼" = 1'-0"

NOTE:
SEE NOTES ON SHEET 7 OF 19.



EAST ABUTMENT ELEVATION
SCALE: ¼" = 1'-0"

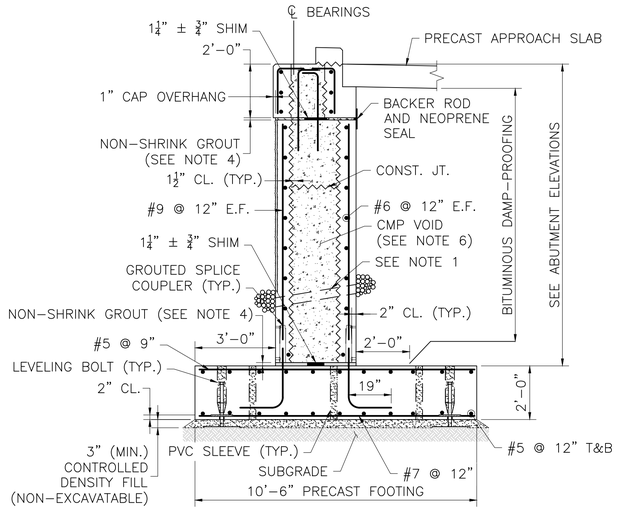
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)ABUT DETAILS).DWG Plotted on 17-Nov-2020 4:02 PM
Final Structural Submittal (SF) November-2020

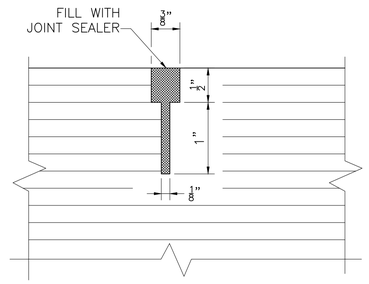
WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	9	19
PROJECT FILE NO. N/A			

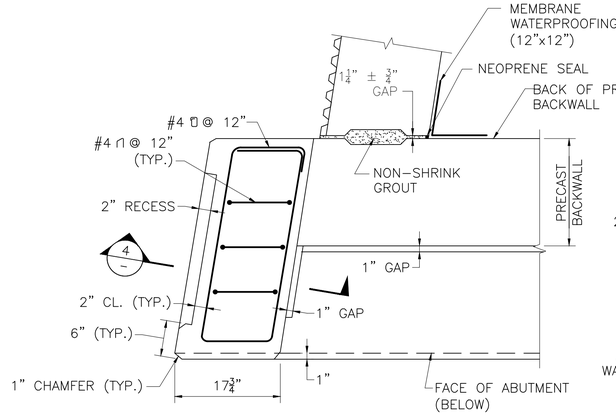
ABUTMENT DETAILS



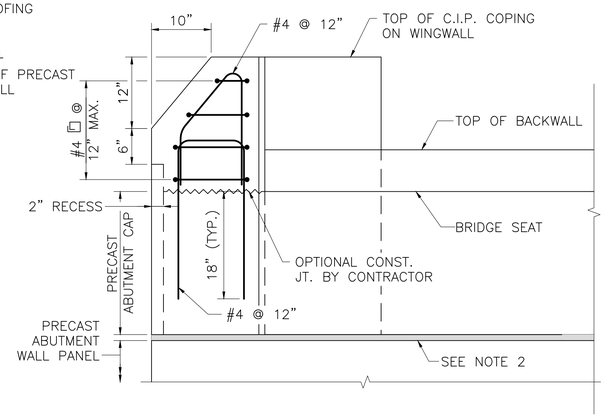
PRECAST ABUTMENT SECTION
SCALE: ⅜" = 1'–0"



PAVEMENT SAWCUT DETAIL
FULL SIZE



SECTION 1
SCALE: 1" = 1'–0"



SECTION 4
SCALE: 1" = 1'–0"

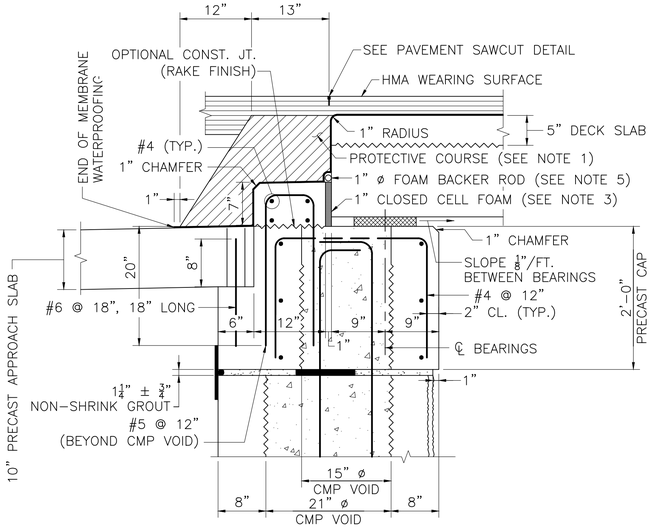
NOTES:

1. ABUTMENT REINFORCEMENT NOT SHOWN FOR CLARITY.
2. PRE–BED SEAT WITH NON–SHRINK GROUT WITH THICKNESS SLIGHTLY MORE THAN SHIM STACK.

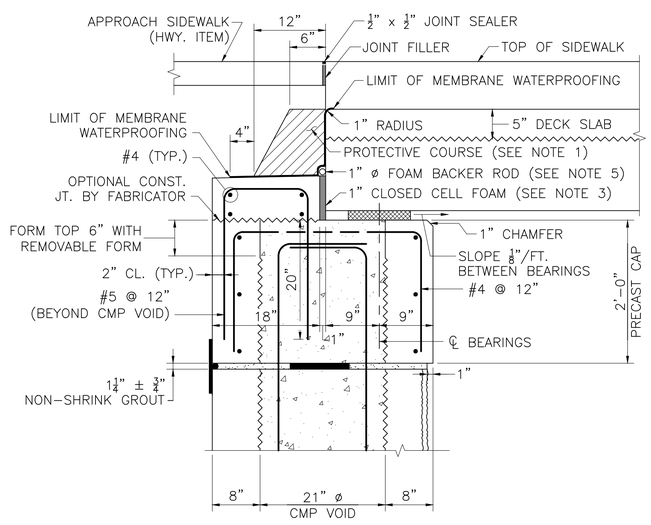
NOTES:

1. 4" ø WEEP HOLES 10'–0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
2. ALL CONCRETE SHALL BE 4000 PSI, 1½ IN., 565 CEMENT CONCRETE EXCEPT THE BACKWALL, WHICH SHALL BE 4000 PSI, ¾ IN., 610 CEMENT CONCRETE. THE TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
3. THE FACTORED BEARING PRESSURE = 4.1 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.

   FACTORED BEARING RESISTANCE = 9.1 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
4. PROTECTIVE COURSE TO BE HOT MIX ASPHALT DENSE BINDER COURSE FOR BRIDGES AND COMPACTED WITH A MECHANICAL HAND–GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.
5. ALL REINFORCING SHOWN IN THIS DETAIL SHALL BE COATED BARS, EXCEPT FOR APPROACH SLAB REINFORCEMENT.
6. ATTACH CLOSED CELL FOAM OF THE SPECIFIED THICKNESS WITH ADHESIVE TO ALL SURFACES OF THE BACKWALL AND CURTAIN WALLS AS SHOWN ON THE PLANS.
7. PRE–BED SEAT WITH NON–SHRINK GROUT WITH THICKNESS MORE THAN SHIIM STACK.
8. DRAPE MEMBRANE WATERPROOFING OVER CLOSED CELL FORM BACKER ROD.
9. PRIOR TO PLACEMENT OF PRECAST CAP, FILL CMP VOIDS WITH 4000 PSI, ¾ IN., 610 CEMENT CONCRETE.
10. AFTER SETTING PRECAST CAP, FILL REMAINDER OF CMP VOID WITH 4000 PSI, ¾ IN., 610 CEMENT CONCRETE.



DETAILS AT ABUTMENT – ROADWAY SECTION
SCALE: 1" = 1'–0"



DETAILS AT ABUTMENT – SIDEWALK SECTION
SCALE: 1" = 1'–0"

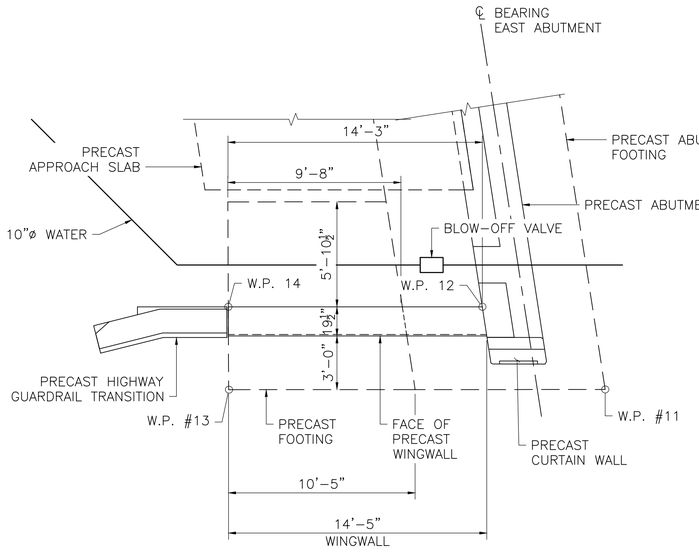
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)ABUT DETAILS.DWG Plotted on 16-Nov-2020 5:01 PM
Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	10	19
PROJECT FILE NO. N/A			

WINGWALL DETAILS
(1 OF 3)



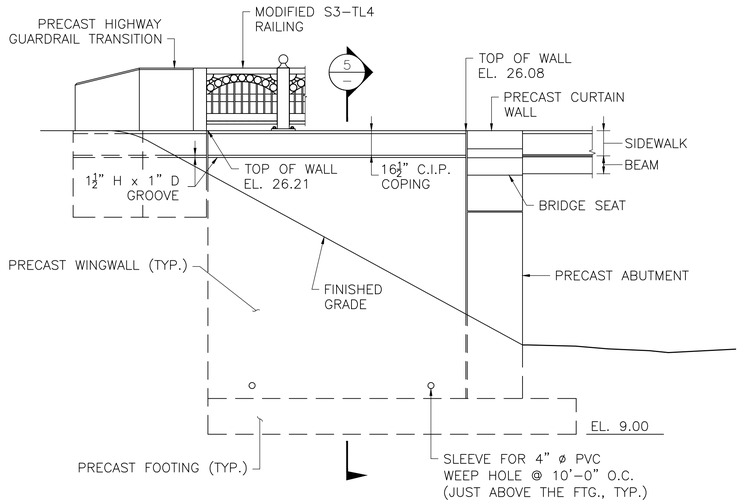
NOTE:
FOR WORKING POINT INFORMATION
SEE SHEET 6 OF 19.

NORTHEAST WINGWALL PLAN
SCALE: ¼" = 1'-0"

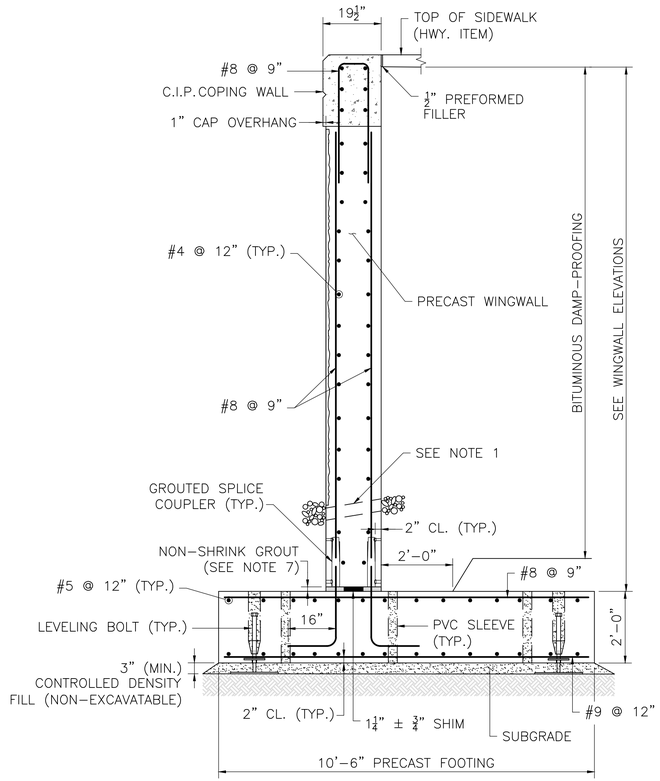
NOTES:

1. 4" ø WEEP HOLES 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
2. ALL CONCRETE SHALL BE 4000 PSI, 1½ IN., 565 CEMENT CONCRETE EXCEPT THE BACKWALL, WHICH SHALL BE 4000 PSI, ¾ IN., 610 CEMENT CONCRETE. THE TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
3. THE FACTORED BEARING PRESSURE = 4.1 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.

   FACTORED BEARING RESISTANCE = 9.1 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
4. PROTECTIVE COURSE TO BE HOT MIX ASPHALT DENSE BINDER COURSE FOR BRIDGES AND COMPACTED WITH A MECHANICAL HAND-GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.
5. ALL REINFORCING SHOWN IN THIS DETAIL SHALL BE COATED BARS, EXCEPT FOR APPROACH SLAB REINFORCEMENT.
7. PRE-BED PRECAST ELEMENT WITH NON-SHRINK GROUT WITH THICKNESS MORE THAN SHIM STACK.



NORTHEAST WINGWALL ELEVATION
SCALE: ¼" = 1'-0"



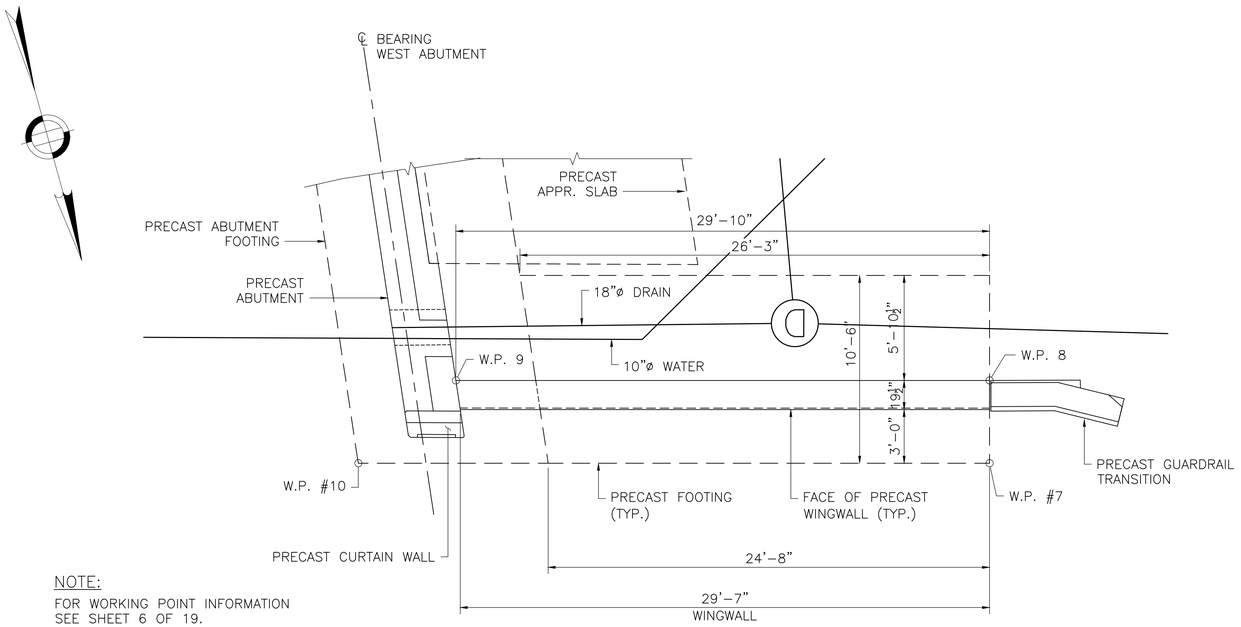
SECTION 5
SCALE: ½" = 1'-0"

MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(NE WINGWALL DETAILS).DWG Plotted on 17-Nov-2020 4:02 PM
Final Structural Submittal (SF) November-2020

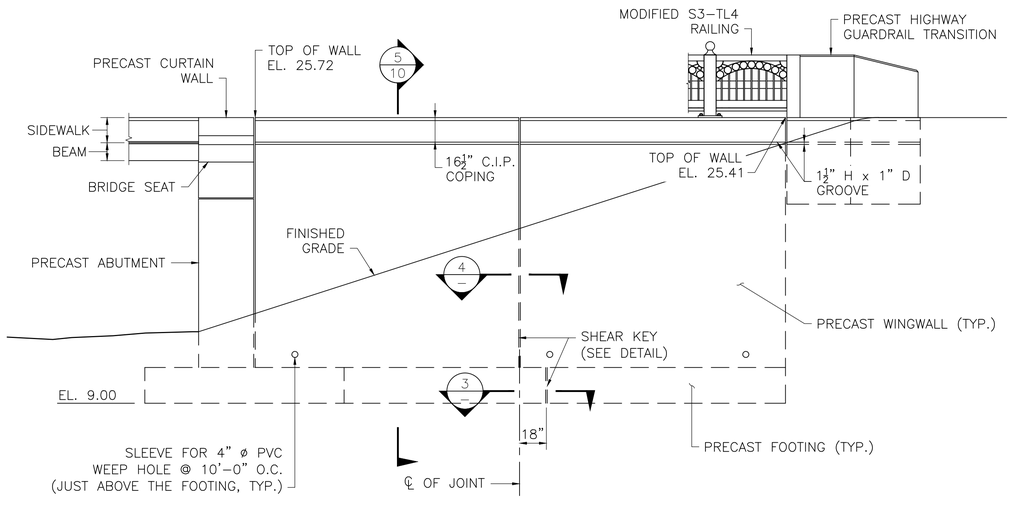
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	11	19
PROJECT FILE NO. N/A			

WINGWALL DETAILS (2 OF 3)

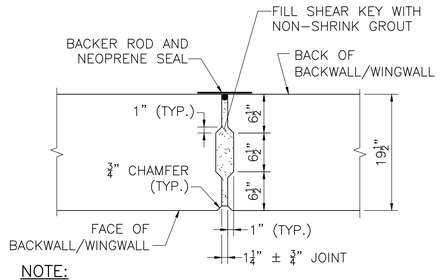


NOTE:
FOR WORKING POINT INFORMATION SEE SHEET 6 OF 19.

NORTHWEST WINGWALL PLAN
SCALE: ¼" = 1'–0"

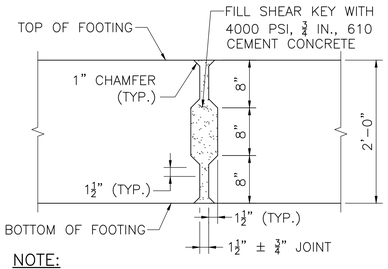


NORTHWEST WINGWALL ELEVATION
SCALE: ¼" = 1'–0"



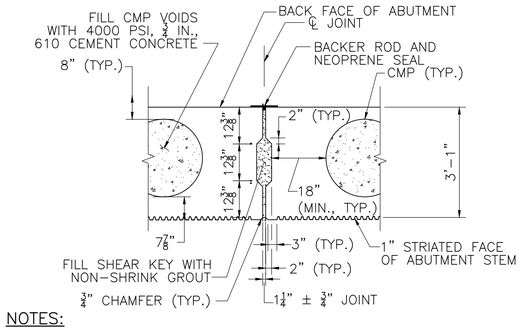
NOTE:
REINFORCEMENT IS NOT SHOWN FOR CLARITY.

SECTION 4
SCALE: 1" = 1'–0"



NOTE:
FOOTING REINFORCEMENT IS NOT SHOWN FOR CLARITY.

SECTION 3
SCALE: 1" = 1'–0"



NOTES:
1. FACE OF SHEAR KEYS SHALL BE BLAST CLEANED, ROUGHENED AND WETTED WITH CLEAN WATER PRIOR TO INSTALLATION.
2. REINFORCEMENT IS NOT SHOWN FOR CLARITY.

SECTION 2
SCALE: ¼" = 1'–0"

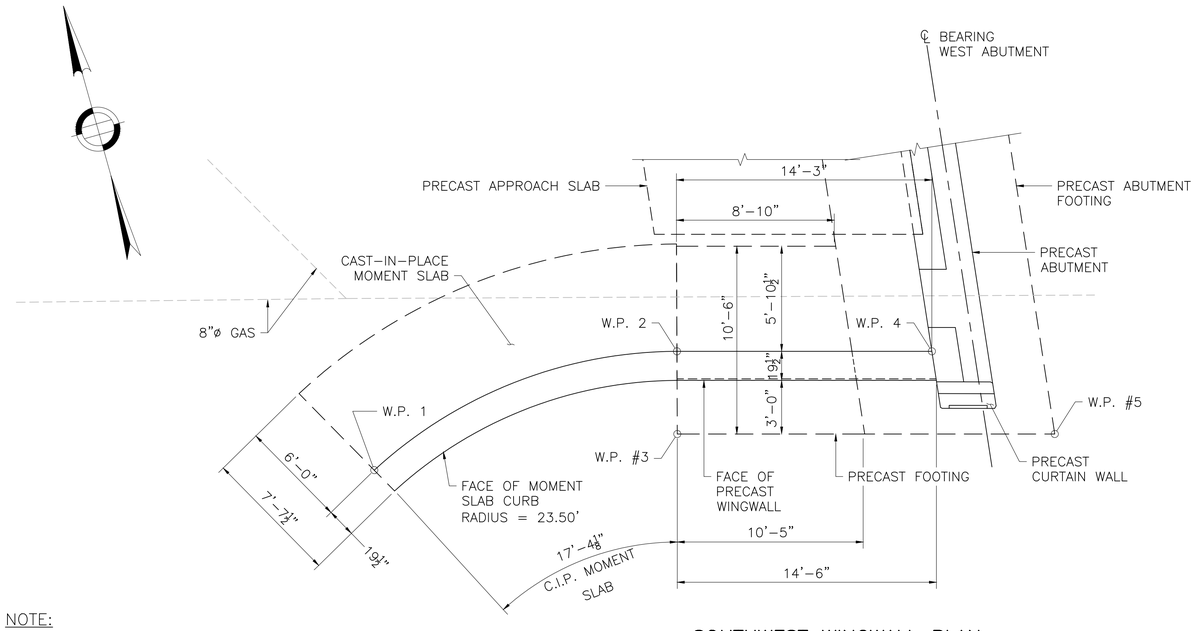
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(NW WINGWALL DETAILS).DWG Plotted on 17-Nov-2020 4:02 PM
Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	12	19
PROJECT FILE NO. N/A			

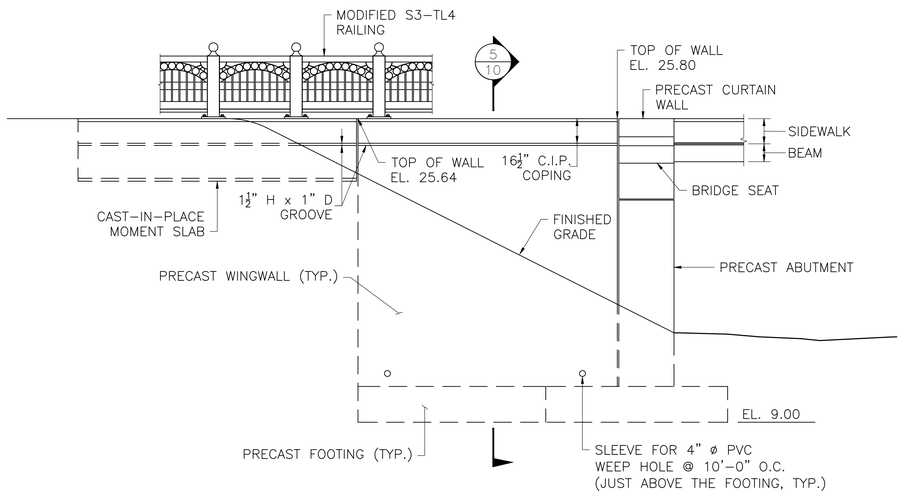
WINGWALL DETAILS
(3 OF 3)



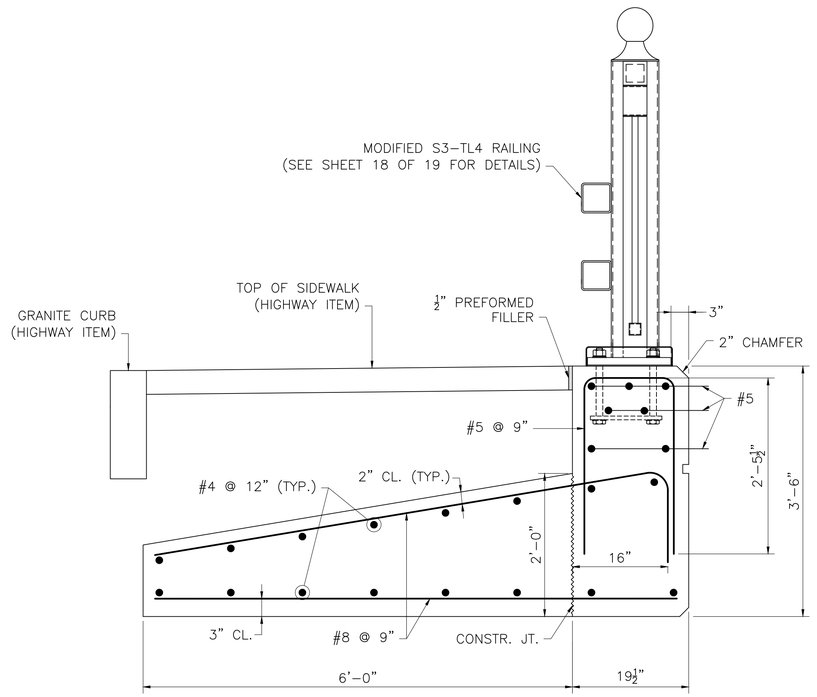
NOTE:

FOR WORKING POINT INFORMATION
SEE SHEET 6 OF 19.

SOUTHWEST WINGWALL PLAN
SCALE: ¼" = 1'-0"



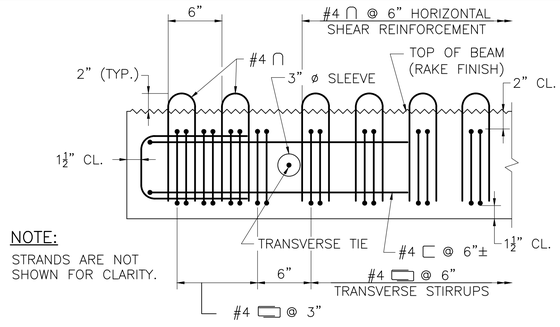
SOUTHWEST WINGWAL ELEVATION
SCALE: ¼" = 1'-0"



MOMENT SLAB TYPICAL SECTION
SCALE: 1" = 1'-0"

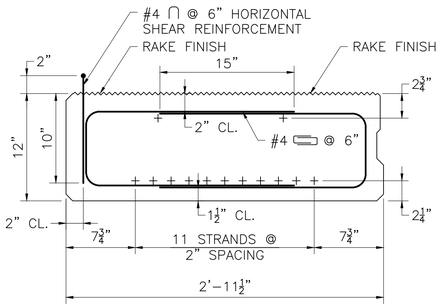
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(SW WINGWALL DETAILS).DWG Plotted on 16-Nov-2020 5:02 PM
Final Structural Submittal (SF) November-2020

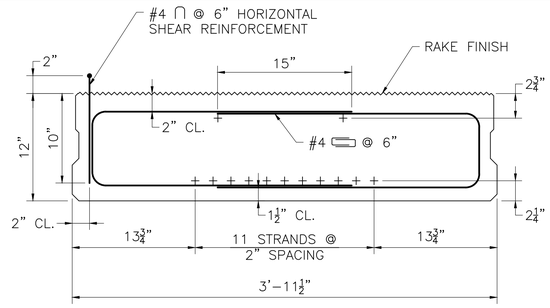


NOTE:
STRANDS ARE NOT SHOWN FOR CLARITY.

LONGITUDINAL SECTION
SCALE: 1½" = 1'–0"

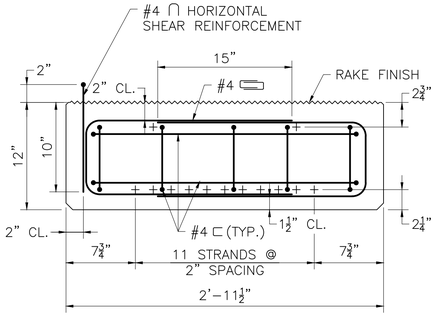


S36–12 (BEAMS 1, 2 & 12)

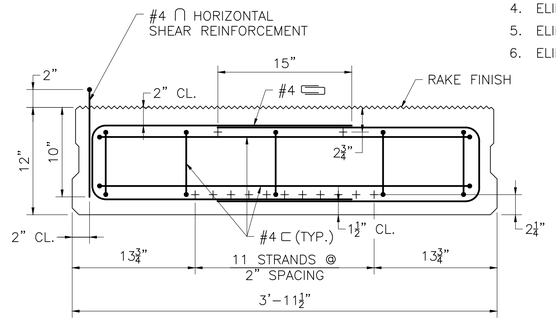


S48–12 (BEAMS 3–11)

TYPICAL MIDSPAN SECTION
SCALE: 1½" = 1'–0"

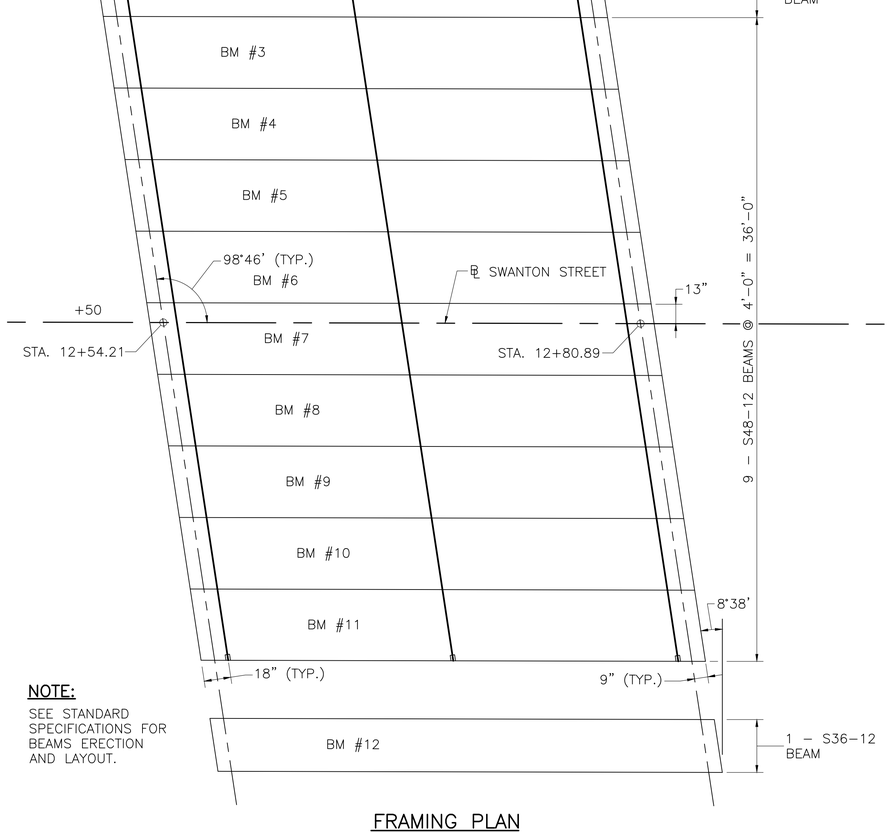


S36–12 (BEAMS 1, 2 & 12)



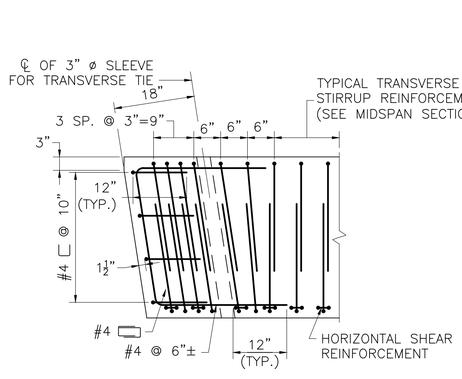
S48–12 (BEAMS 3–11)

TYPICAL END OF BEAM SECTION
SCALE: 1½" = 1'–0"

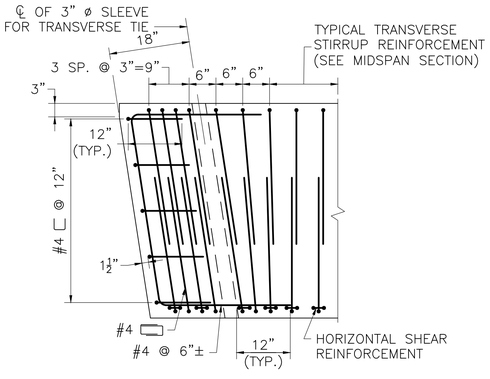


NOTE:
SEE STANDARD SPECIFICATIONS FOR BEAMS ERECTION AND LAYOUT.

FRAMING PLAN
SCALE: ¼" = 1'–0"



S36–12 (BEAMS 1, 2, & 12)



S48–12 (BEAMS 3–11)

END OF BEAM SECTION
SCALE: ¾" = 1'–0"

BEAM SECTION NOTES:
1. + DENOTES STRAIGHT STRANDS.
2. SEE SHEAR KEY DETAIL ON SHEET 14 OF 19.
3. SEE END OF BEAM PLAN FOR STIRRUP SPACING.
4. ELIMINATE SHEAR KEYS ON BEAMS 1 AND 12.
5. ELIMINATE SHEAR KEY ON UTILITY SIDE OF BEAM 2.
6. ELIMINATE SHEAR KEY ON UTILITY SIDE OF BEAM 11.

PRESTRESS NOTES:
1. ALL PRETENSIONING ELEMENTS SHALL BE 0.6" ø, UNCOATED, SEVEN–WIRE, LOW RELAXATION STEEL STRANDS AND SHALL CONFORM TO AASHTO M 203.
2. THE TENSILE STRENGTH OF THE PRETENSIONING STRANDS SHALL BE 270 KSI.
3. THE INITIAL TENSION PER 0.6" ø STRAND SHALL BE 44 KIPS.
4. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 6500 PSI.
5. NO PRESTRESS SHALL BE TRANSFERRED TO THE CONCRETE UNTIL IT HAS ATTAINED A COMPRESSIVE STRENGTH, AS SHOWN BY CYLINDER TEST, OF AT LEAST 4500 PSI.
6. THE TOP OF ALL BEAMS SHALL BE GIVEN A RAKE FINISH (¼" AMPLITUDE) ACROSS THE WIDTH (PERPENDICULAR TO THE BEAM'S AXIS).
7. THE FABRICATOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE LIFTING DEVICES WHICH SHALL BE ADEQUATE FOR THE SAFETY FACTORS REQUIRED BY THE ERECTION PROCEDURE.

CONSTRUCTION SEQUENCE NOTES:
1. AFTER ALL BEAMS HAVE BEEN ERECTED, TENSION EACH TRANSVERSE TIE TO 5 KIPS.
2. FILL ALL KEYWAYS WITH MORTAR (M4.04.0). IF THE KEYWAYS ARE NOT FILLED WITHIN FIVE (5) DAYS AFTER THE BEAMS ARE ERECTED, THE CONTRACTOR SHALL COVER AND PROTECT THE KEYWAYS FROM WEATHER AND DEBRIS UNTIL THEY ARE FILLED.
3. AFTER THE MORTAR HAS CURED (24 HOURS MINIMUM), TENSION EACH TRANSVERSE TIE TO 44 KIPS.
4. CONCRETE FOR DECK SLAB SHALL BE 4000 PSI, ¾ IN, 585 HP CEMENT CONCRETE AND SHALL BE PLACED AFTER THE TRANSVERSE TIES HAVE BEEN FULLY TENSIONED.
5. NO TRAFFIC OR HEAVY EQUIPMENT WILL BE PERMITTED ON THE BRIDGE UNTIL ALL TRANSVERSE TIES HAVE BEEN PROPERLY TENSIONED AND THE DECK HAS BEEN CAST AND CURED PER THE STANDARD SPECIFICATIONS.

WINCHESTER
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STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	13	19
PROJECT FILE NO. N/A			

BEAM DETAILS (1 OF 2)

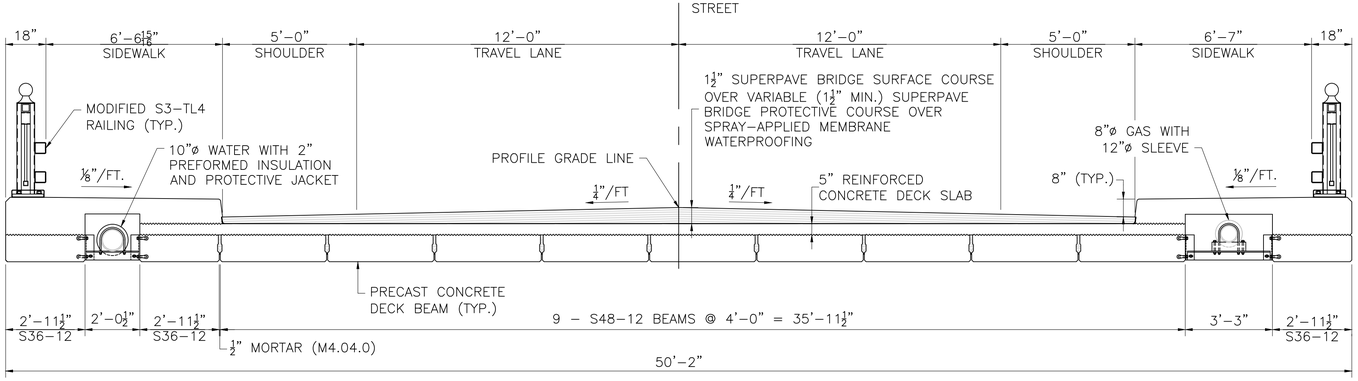
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)(BEAM DETAILS).DWG Plotted on 16-Nov-2020 5:03 PM
Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

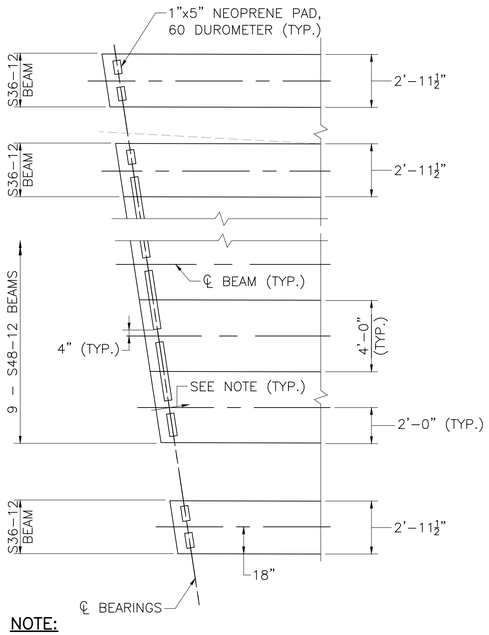
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	14	19
PROJECT FILE NO. N/A			

BEAM DETAILS (2 OF 2)



TYPICAL SECTION

SCALE: ⅜" = 1'–0"

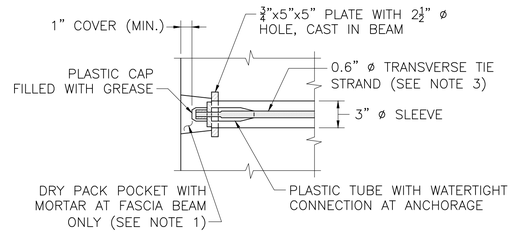


NOTE:

PROVIDE ⅛"/FT SLOPE BETWEEN BEARINGS.

LAYOUT OF BEARINGS

SCALE: ¼" = 1'–0"

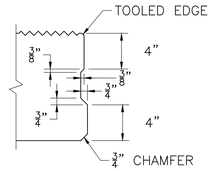

1" COVER (MIN.)
¾"x5"x5" PLATE WITH 2½" ø HOLE, CAST IN BEAM
PLASTIC CAP FILLED WITH GREASE
0.6" ø TRANSVERSE TIE STRAND (SEE NOTE 3)
3" ø SLEEVE
DRY PACK POCKET WITH MORTAR AT FASCIA BEAM ONLY (SEE NOTE 1)
PLASTIC TUBE WITH WATERTIGHT CONNECTION AT ANCHORAGE

NOTES:

1. MORTAR FOR EXTERIOR POCKETS SHALL CONFORM TO M4.02.15 AND SHALL BE THE SAME COLOR AND TEXTURE AS THE BEAM CONCRETE.
2. OTHER ANCHORAGE SYSTEMS MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER. ALTERNATE ANCHORAGE SYSTEMS SHALL BE WATERTIGHT AND CORROSION PROOF.
3. TRANSVERSE TIES SHALL BE COVERED BY A SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITING GREASE BETWEEN THE STRAND AND SHEATH) FOR THE FULL LENGTH OF THE STRAND, EXCEPT AT THE ANCHORAGE LOCATION.

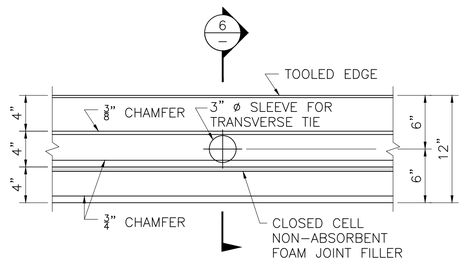
TRANSVERSE TIE ANCHORAGE

SCALE: 1½" = 1'–0"



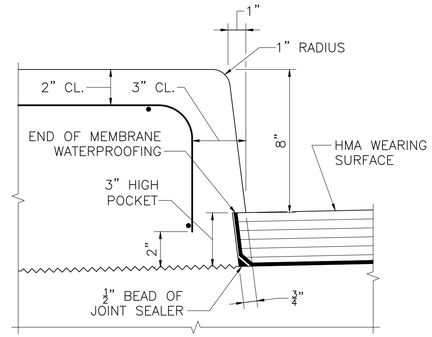
SHEAR KEY DETAIL

SCALE: 1½" = 1'–0"



TYPICAL BEAM ELEVATION AT TRANSVERSE TIE LOCATIONS

SCALE: 1½" = 1'–0"

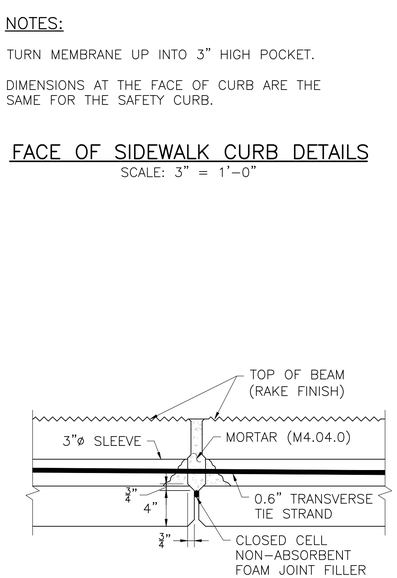


NOTES:

1. TURN MEMBRANE UP INTO 3" HIGH POCKET.
2. DIMENSIONS AT THE FACE OF CURB ARE THE SAME FOR THE SAFETY CURB.

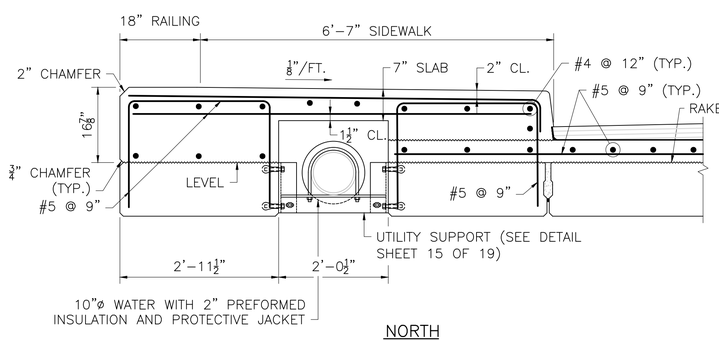
FACE OF SIDEWALK CURB DETAILS

SCALE: 3" = 1'–0"

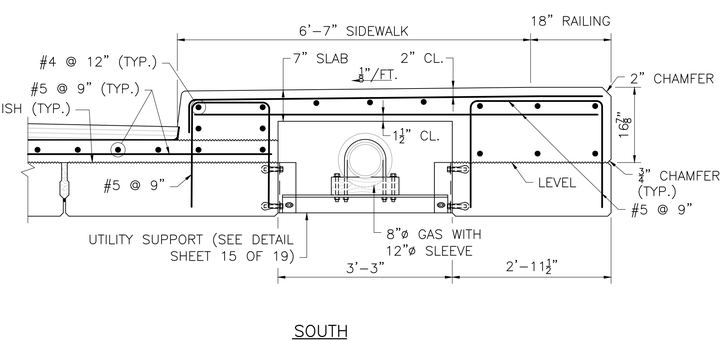


SECTION 6

SCALE: 1½" = 1'–0"



NORTH



SOUTH

SIDEWALK SECTIONS

SCALE: ¾" = 1'–0"

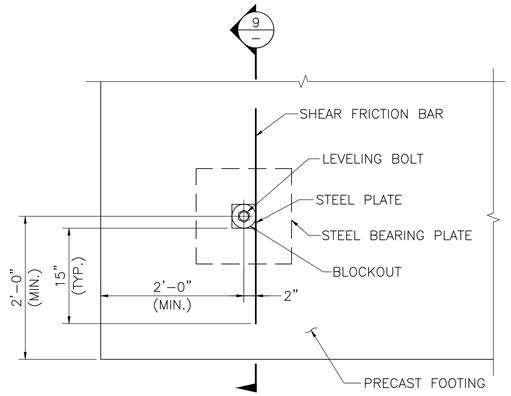
NOTES:

1. DECK SLAB SHALL BE 4000 PSI, ¾ IN., 585 HP CEMENT CONCRETE.
2. SIDEWALK SHALL BE 5000 PSI, ¾ IN., 685 HP CEMENT CONCRETE.

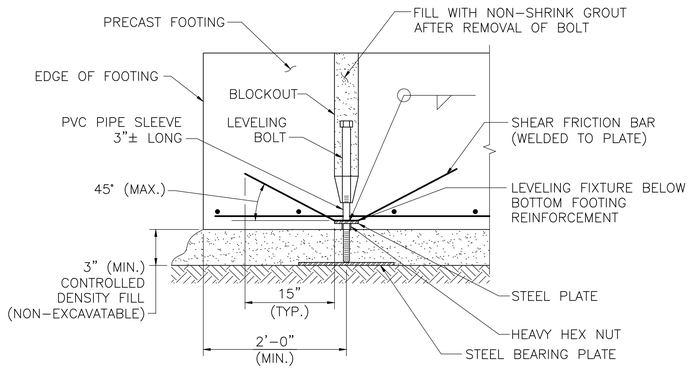
MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)BEAM DETAILS).DWG Plotted on 16-Nov-2020 5:03 PM
Final Structural Submittal (SF) November-2020

BR(W40008)MISC DETAILS).DWG Plotted on 17-Nov-2020 2:28 PM



PLAN
SCALE: 1" = 1'–0"

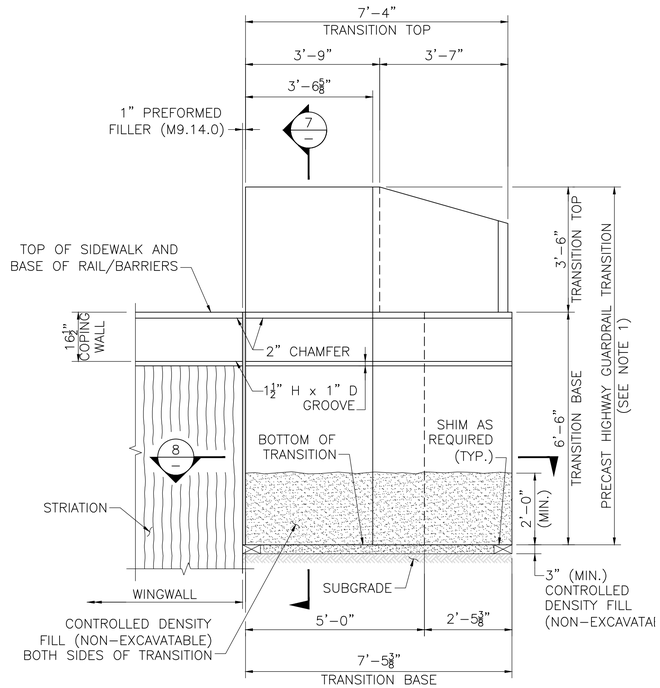


SECTION 9
SCALE: 1" = 1'–0"

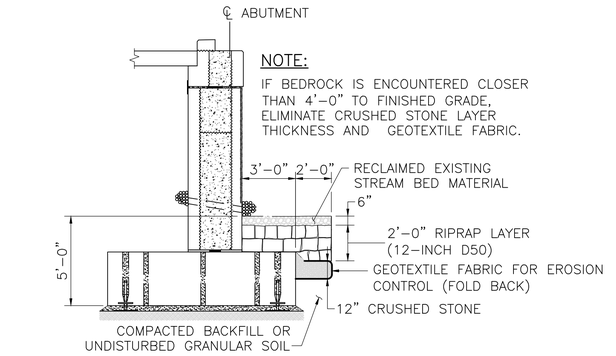
LEVELING BOLT ASSEMBLY

LEVELING BOLT ASSEMBLY NOTES:

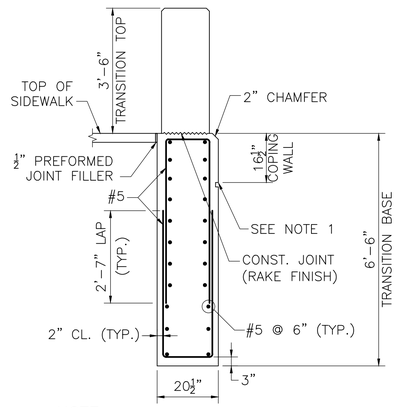
1. THE LEVELING BOLT ASSEMBLY SHOWN IS SCHEMATIC. DESIGN OF THE LEVELING BOLT ASSEMBLY SHALL BE PERFORMED BY THE CONTRACTOR AND SUBMITTED WITH THE ASSEMBLY PLAN TO ENGINEER FOR APPROVAL.
2. BOLT SHALL BE REMOVED AFTER THE CONTROLLED DENSITY FILL (NON–EXCAVATABLE) HAS SET.
3. STEEL PLATES SHALL BE AASHTO M 270 GRADE 36 UNCOATED STEEL.
4. BOLTS SHALL BE H.S. AASHTO M 164 AND UNCOATED.
5. REINFORCEMENT SHALL BE WELDABLE LOW–ALLOY ASTM A 706 BARS.
6. GREASE OR OIL NUT AND BOLT THREADS TO FACILITATE LEVELING AND REMOVAL.



PRECAST GUARDRAIL TRANSITION ELEVATION
SCALE: ½" = 1'–0"

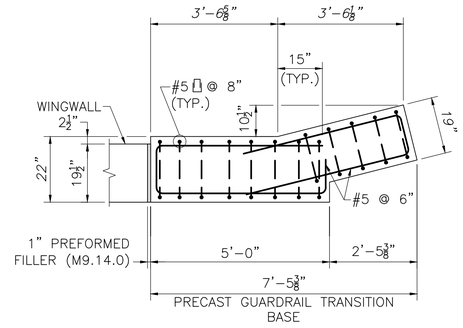

℄ ABUTMENT
NOTE:
IF BEDROCK IS ENCOUNTERED CLOSER THAN 4'–0" TO FINISHED GRADE, ELIMINATE CRUSHED STONE LAYER THICKNESS AND GEOTEXTILE FABRIC.
3'–0"
2'–0"
RECLAIMED EXISTING STREAM BED MATERIAL
6"
2'–0" RIPRAP LAYER (12–INCH D50)
GEOTEXTILE FABRIC FOR EROSION CONTROL (FOLD BACK)
5'–0"
12" CRUSHED STONE
COMPACTED BACKFILL OR UNDISTURBED GRANULAR SOIL

RIPRAP DETAIL
SCALE: ¼" = 1'–0"



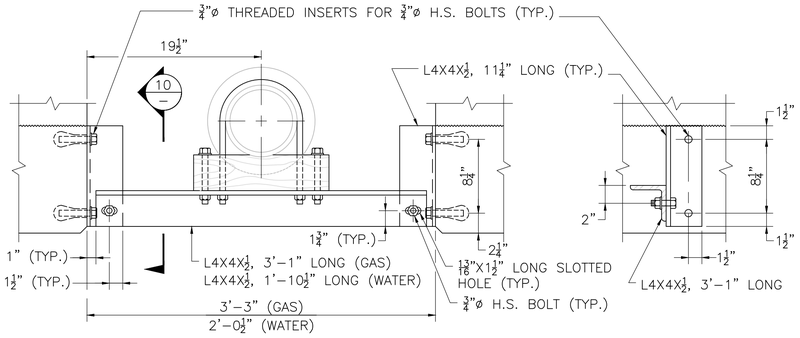
NOTE:
1. REINFORCEMENT OF THE TRANSITION TOP IS NOT SHOWN FOR CLARITY.

SECTION 7
SCALE: ½" = 1'–0"



NOTE:
WINGWALL REINFORCEMENT AND STRIATIONS NOT SHOWN FOR CLARITY.

SECTION 8
SCALE: ½" = 1'–0"

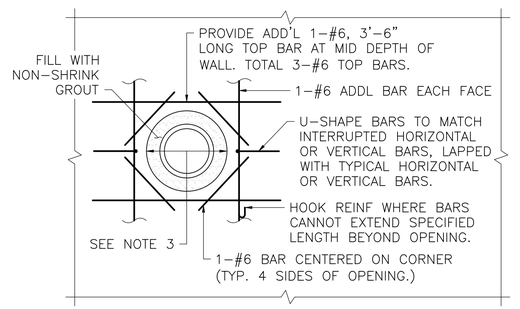


ELEVATION

SECTION 10

NOTES:
1. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 36.
2. ALL STRUCTURAL STEEL AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AND M 232.
3. THE ¾" ø THREADED INSERTS FOR ¾" ø BOLTS SHALL BE CAST INTO THE PRECAST BEAMS BY THE FABRICATOR AND SHALL PROVIDE A MINIMUM NOMINAL TENSILE RESISTANCE OF 6.0 KIPS AND A MINIMUM NOMINAL SHEAR RESISTANCE OF 6.0 KIPS IN 3000 PSI CONCRETE.
4. GAS UTILITY SUPPORT SHOWN. WATER UTILITY SUPPORT SIMILAR, EXCEPT AS NOTED ON DETAIL.

UTILITY SUPPORT DETAILS
SCALE: 1½" = 1'–0"


FILL WITH NON–SHRINK GROUT
PROVIDE ADD'L 1–#6, 3'–6" LONG TOP BAR AT MID DEPTH OF WALL. TOTAL 3–#6 TOP BARS.
1–#6 ADDL BAR EACH FACE
U–SHAPE BARS TO MATCH INTERRUPTED HORIZONTAL OR VERTICAL BARS, LAPPED WITH TYPICAL HORIZONTAL OR VERTICAL BARS.
HOOK REINF WHERE BARS CANNOT EXTEND SPECIFIED LENGTH BEYOND OPENING.
SEE NOTE 3
1–#6 BAR CENTERED ON CORNER (TYP. 4 SIDES OF OPENING.)

FRAMING OPENING THROUGH PRECAST ABUTMENT
SCALE: ¾" = 1'–0"

NOTES:
1. TYPICAL HORIZONTAL AND VERTICAL WALL REINFORCING NOT SHOWN FOR CLARITY.
2. WALL OPENINGS SHALL BE COORDINATED AND DETAILED ON THE REINFORCEMENT AND PRECAST SHOP DRAWINGS.
3. OPENING SHALL BE 24"ø FOR AN 18"ø PIPE AND 18"ø FOR A 12"ø PIPE

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DATE	DESCRIPTION
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Final Structural Submittal (SF) November-2020

WINCHESTER
SWANTON STREET

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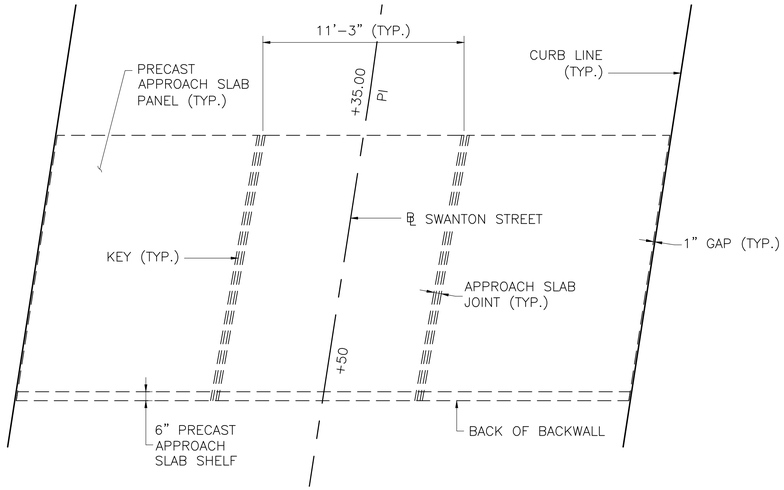
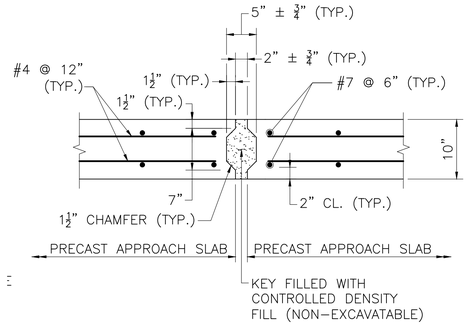
MA	NFA	15	19
PROJECT FILE NO. N/A			

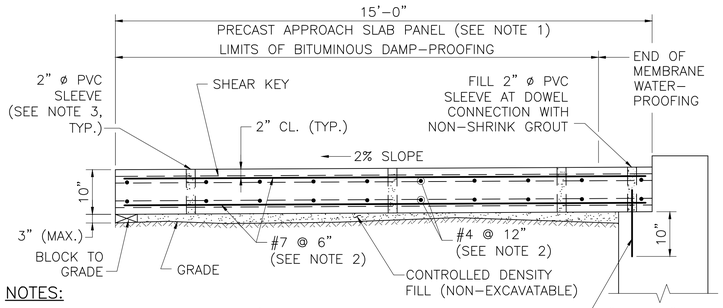
MISCELLANEOUS DETAILS



PRECAST APPROACH SLAB PLAN
SCALE: 3" = 1'-0"



APPROACH SLAB JOINT DETAIL
SCALE: ¾" = 1'-0"



NOTES:

1. PRECAST PANEL TO BE 4000 PSI, 1½ IN., 565 CEMENT CONCRETE. SUBSTITUTIONS WILL NOT BE PERMITTED.
2. PLACE LONGITUDINAL REINFORCEMENT PARALLEL TO CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.
3. PVC SLEEVES TO BE INCLUDED IN PRECAST APPROACH SLABS TO FACILITATE PLACEMENT OF CONTROLLED DENSITY FILL (NON-EXCAVATABLE).

PRECAST APPROACH SLAB SECTION
SCALE: ¾" = 1'-0"

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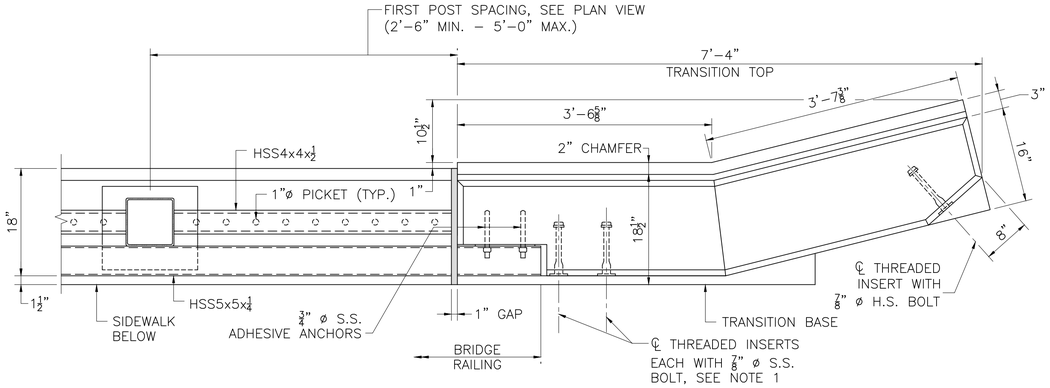
WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	17	19
PROJECT FILE NO. N/A			

TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION

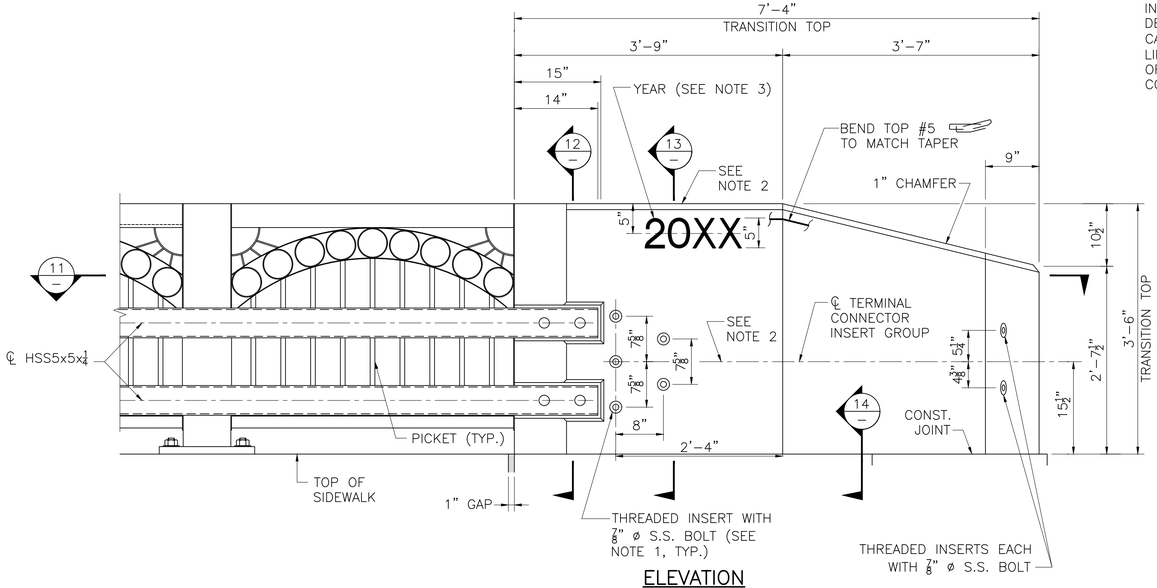


PLAN
SCALE: 1" = 1'-0"

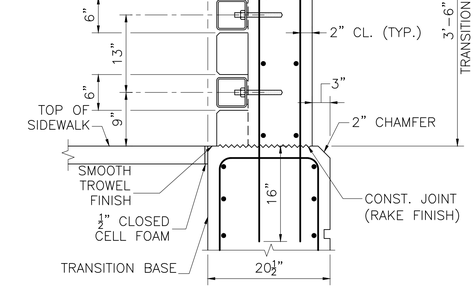
NOTES:

1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER ⅞" ø S.S. BOLT. S.S. BOLTS SHALL BE ⅞" ø x 1¼" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR ⅞" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
2. FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.

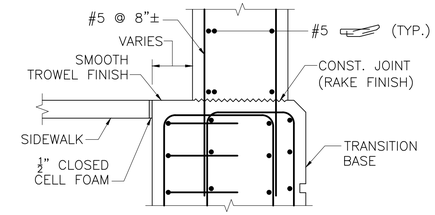
   FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF CURB SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.
3. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.
4. ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, ¾", 685 HP CEMENT CONCRETE.
5. LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1½" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.



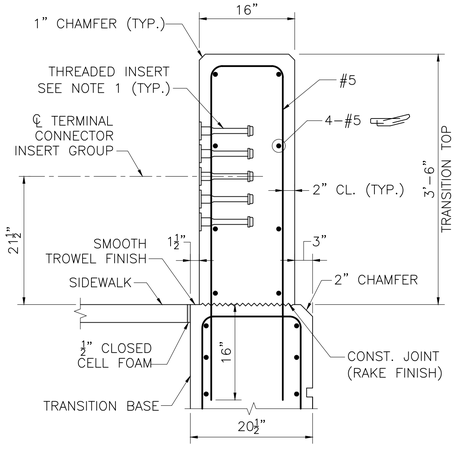
ELEVATION
SCALE: 1" = 1'-0"



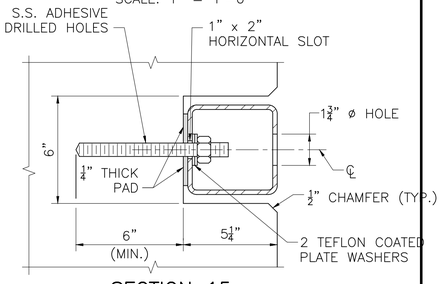
SECTION 12
SCALE: 1" = 1'-0"



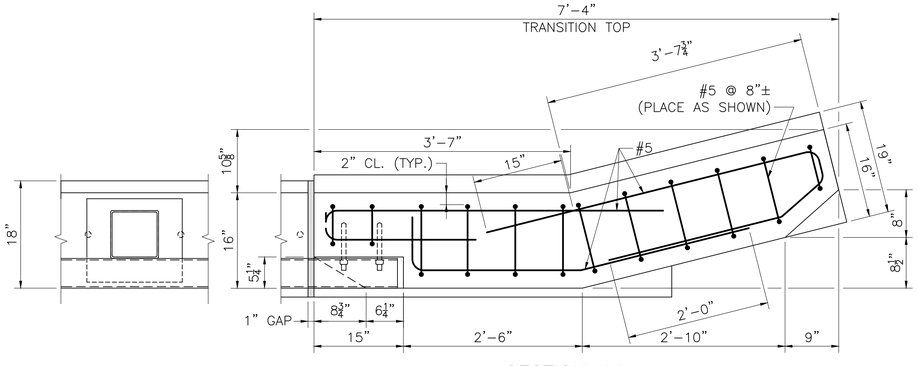
SECTION 14
SCALE: 1" = 1'-0"



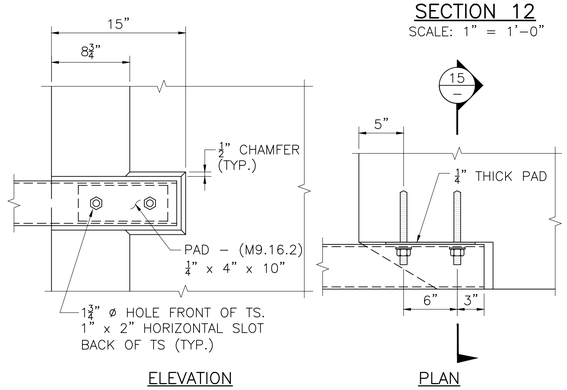
SECTION 13
SCALE: 1" = 1'-0"



SECTION 15
SCALE: 3" = 1'-0"



SECTION 11
SCALE: 1" = 1'-0"



RAIL ATTACHMENT
SCALE: 1½" = 1'-0"

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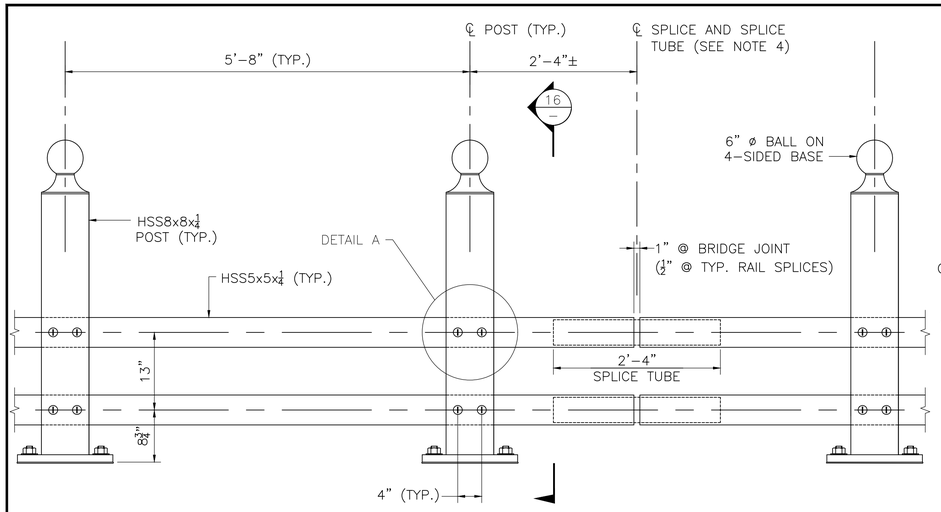
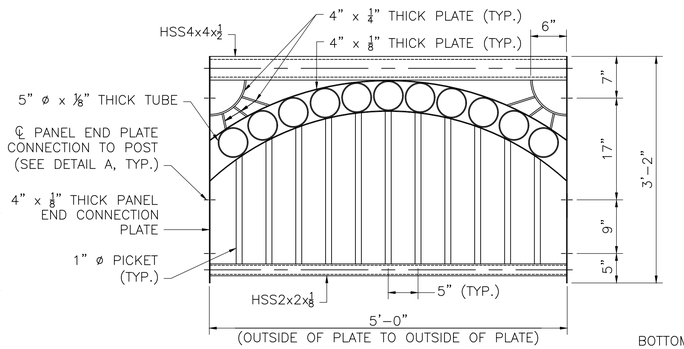
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)MISC DETAILS).DWG Plotted on 16-Nov-2020 5:04 PM
Final Structural Submittal (SF) November-2020



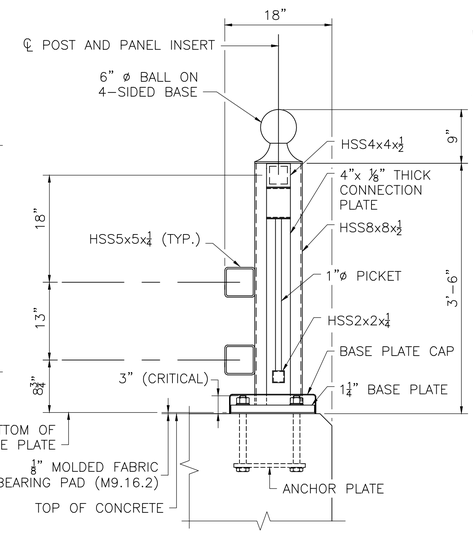
BRIDGE RAILING ELEVATION

SCALE: 1" = 1'-0"



PANEL INSERT

SCALE: 1" = 1'-0"



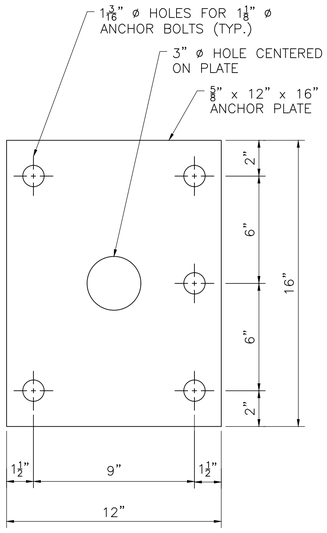
SECTION 16

SCALE: 1" = 1'-0"

WINCHESTER
SWANTON STREET

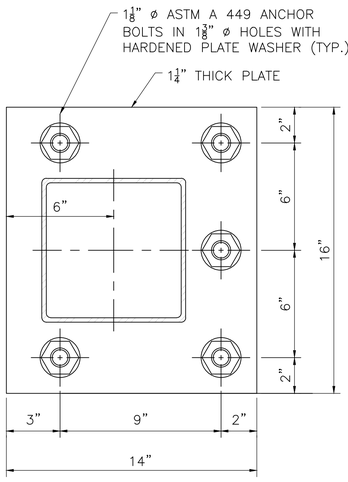
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	18	19
PROJECT FILE NO. N/A			

MODIFIED S3-TL4 RAILING DETAILS



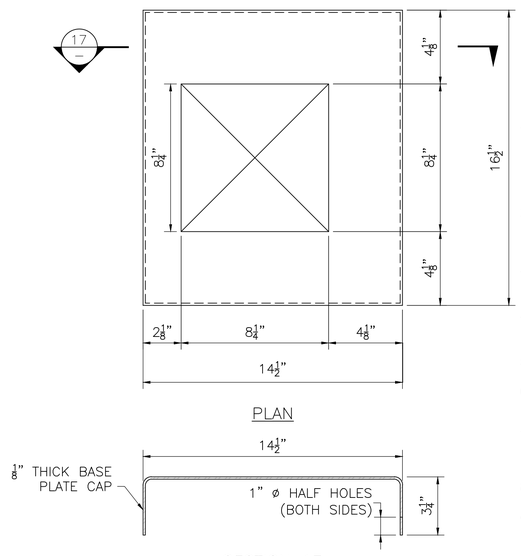
ANCHOR PLATE

SCALE: 3" = 1'-0"



BASE PLATE

SCALE: 3" = 1'-0"

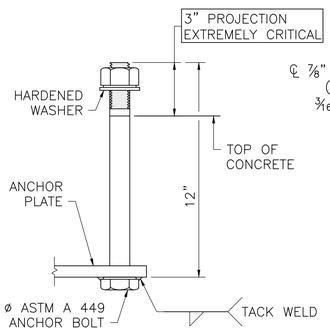


BASE PLATE CAP PLAN

SCALE: 3" = 1'-0"

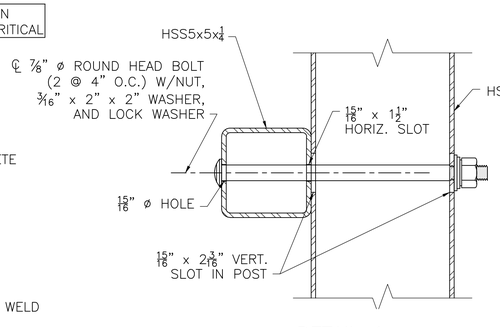
RAILING NOTES:

1. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING (HSS) SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 500 WITH A CERTIFIED Fy = 50 KSI MINIMUM. THE MINIMUM HORIZONTAL BENDING RADII OF THE HSS TUBING SHALL BE 8 FEET. PICKET CARRIER ANGLES, ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36. PICKET TUBING SHALL CONFORM TO ASTM A 513 WITH Fy = 36 KSI MIN. OR A 500 GRADE B.
2. ALL STEEL (EXCEPT THE ⅝" ANCHOR PLATE AND FASTENERS) SHALL BE GALVANIZED AND PAINTED BLACK (FEDERAL STD. 595B COLOR NO. 27038). ANCHOR PLATE SHALL BE GALVANIZED ONLY. HEADS OF ⅞" ø ROUND HEAD BOLTS SHALL BE PAINTED TO MATCH RAIL.
3. ANCHOR BOLTS SHALL BE SET WITH TEMPLATES. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN AFTER STEEL IS IN PLACE.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR (4) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN THE PANELS OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. ALL POSTS TO BE PLUMB WHEN PROFILE GRADE EXCEEDS 1.5%. FOR PROFILE GRADES LESS THAN 1.5%, POSTS SHALL BE SET PERPENDICULAR TO GRADE.
7. POST FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING. WELD SHALL BE BACK-GOUGED ON BACK SIDE EXCEPT AT WEB. WELD IS THE SAME ON BOTH FLANGES.
8. ⅞" ø ROUND HEAD BOLTS SHALL CONFORM TO THE CHEMICAL AND PHYSICAL REQUIREMENTS OF AASHTO M 164.
9. EXPANSION BOLTS SHALL BE TYPE HB HOLLO-BOLT FROM LINDAPTER, OR APPROVED EQUIVALENT.



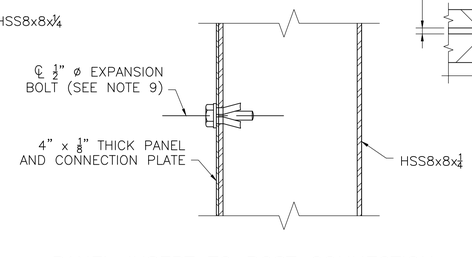
ANCHOR BOLT

SCALE: 3" = 1'-0"


HSS5x5x¼
℄ ⅞" ø ROUND HEAD BOLT (2 @ 4" O.C.) W/NUT, 3/16" x 2" x 2" WASHER, AND LOCK WASHER
HSS8x8x¼
15/16" x 1½" HORIZ. SLOT
15/16" ø HOLE
15/16" x 2 3/16" VERT. SLOT IN POST

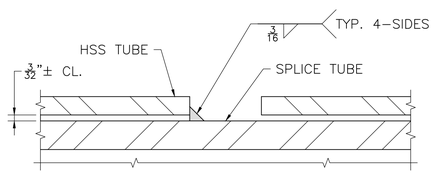
DETAIL A

SCALE: 3" = 1'-0"



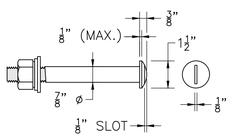
PANEL INSERT TO POST CONNECTION

SCALE: 3" = 1'-0"



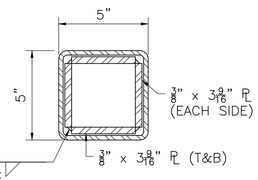
SPLICE DETAIL

SCALE: 1" = 1'-0"



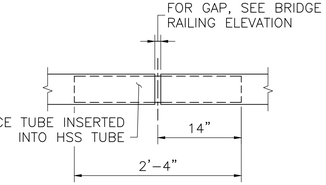
ROUND HEAD BOLT

SCALE: 3" = 1'-0"



SPLICE TUBE DETAILS

SCALE: 3" = 1'-0"



TYPICAL SPLICE

SCALE: 1" = 1'-0"

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MODIFIED S3-TL4 RAILING

BR(W40008)MISC DETAILS).DWG Plotted on 17-Nov-2020 3:21 PM
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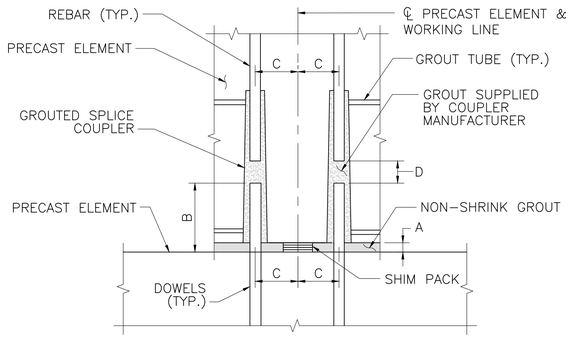


NOTES:

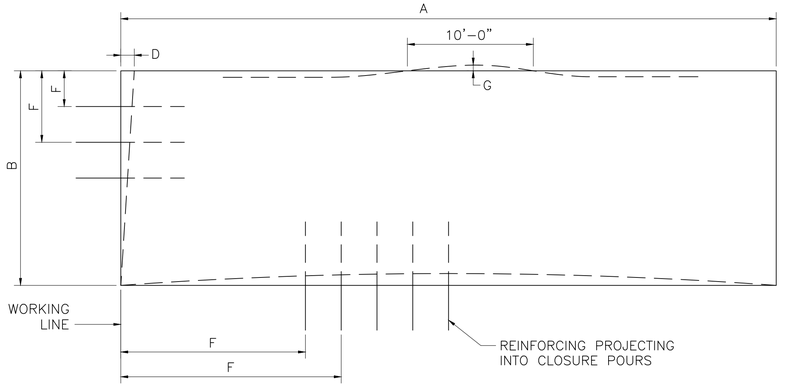
1. USE MATCHING TEMPLATES FOR THE LOCATION OF REINFORCEMENT AND GROUTED SPLICE COUPLER PLACEMENT WITHIN THE ELEMENTS TO CONTROL THE CRITICAL DIMENSION "C".
2. CONSULT MANUFACTURER OF THE GROUTED SPLICE COUPLER FOR PROPER DIMENSIONS "B" AND "D" AND FOR TOLERANCES ON THESE AND ALL DIMENSIONS.
3. BEFORE EXECUTING GROUTED SPLICE COUPLER ASSEMBLIES, ALWAYS SEEK INSTALLATION RECOMMENDATIONS FROM THE MANUFACTURER OF THE GROUTED SPLICE COUPLER USED.

GROUTED SPLICE COUPLER DETAILS

NOT TO SCALE

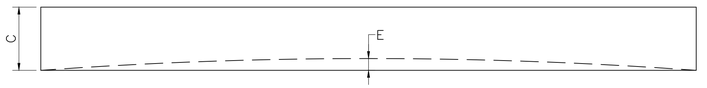
GROUTED SPLICE COUPLER TOLERANCES

A	SHIM PACK HEIGHT	$1\frac{1}{4}" \pm \frac{3}{4}"$
B	DOWEL HEIGHT	CONSULT MANUFACTURER
C	LOCATION OF REINFORCING, GROUTED SPLICE COUPLER, AND DOWELS MEASURED FROM A WORKING LINE	$\pm\frac{1}{4}"$
D	GAP BETWEEN DOWELS AND REINFORCING	CONSULT MANUFACTURER



PLAN

NOT TO SCALE

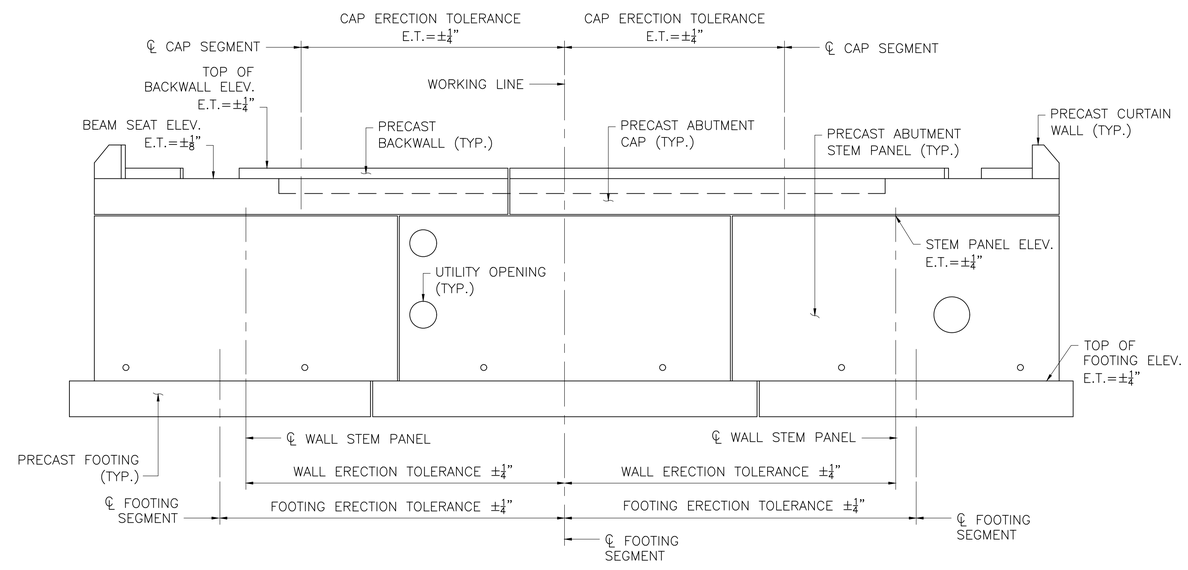


ELEVATION

NOT TO SCALE

APPROACH SLAB FABRICATION TOLERANCES

A	LENGTH (OVERALL)	$\pm\frac{1}{4}"$
B	WIDTH (OVERALL)	$\pm\frac{1}{4}"$
C	DEPTH (OVERALL)	$\pm\frac{1}{4}"$
D	VARIATION FROM SPECIFIED PLAN END SQUARENESS OR SKEW	$\pm\frac{1}{2}"$
E	SWEEP OVER MEMBER LENGTH	$\pm\frac{3}{8}"$
F	LOCATION OF PROJECTING REINFORCING MEASURED FROM A WORKING LINE	$\pm\frac{1}{2}"$
G	LOCAL SMOOTHNESS OF ANY SURFACE	$\pm\frac{1}{4}"$ IN 10 FEET



NOTE:

WEST ABUTMENT SHOWN. EAST ABUTMENT SIMILAR.

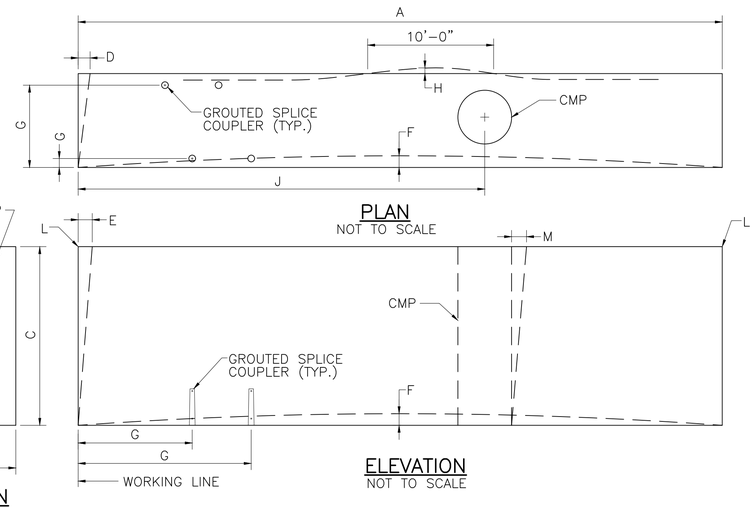
ABUTMENT ERECTION TOLERANCES

SCALE: ¼" = 1'–0"

WINCHESTER
SWANTON STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NFA	19	19
PROJECT FILE NO. N/A			

TOLERANCES



WALL SEGMENT ELEVATION ERECTION TOLERANCES

L	TOP ELEVATION FROM NOMINAL TOP ELEVATION	$\frac{1}{4}"$
M	MAXIMUM PLUMB VARIATION OVER HEIGHT OF PANEL	$\frac{1}{2}"$
N	PLUMB IN ANY 10 FEET OF PANEL HEIGHT	$\frac{1}{4}"$

WALL SEGMENT FABRICATION TOLERANCES

A	LENGTH	$\pm\frac{1}{4}"$
B	WIDTH (OVERALL)	$\pm\frac{1}{4}"$
C	DEPTH (OVERALL)	$\pm\frac{1}{4}"$
D	VARIATION FROM SPECIFIED PLAN END SQUARENESS OR SKEW	$\pm\frac{1}{2}"$
E	VARIATION FROM SPECIFIED ELEVATION END SQUARENESS OR SKEW	$\pm\frac{1}{2}"$
F	SWEEP OVER MEMBER LENGTH	$\pm\frac{3}{8}"$
G	LOCATION OF GROUTED SPLICE COUPLER MEASURED FROM A WORKING LINE	$\pm\frac{1}{4}"$
H	LOCAL SMOOTHNESS OF ANY SURFACE	$\pm\frac{1}{4}"$ IN 10 FEET
J	LOCATION OF BLOCKOUT FOR PILES OR VOIDS	$\pm\frac{1}{2}"$
K	MAXIMUM PLUMB VARIATION OVER HEIGHT OF CMP VOID	$\pm\frac{1}{2}"$

MONTH DD, YYYY	ISSUED FOR BID
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

BR(W40008)MISC DETAILS).DWG Plotted on 16-Nov-2020 5:04 PM
Final Structural Submittal (SF) November-2020